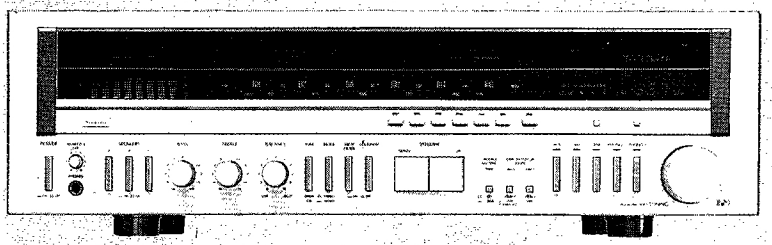
# SERVICE MANUAL

## DIGITAL QUARTZ SYNTHESIZER DC STEREO RECEIVER

# SANSUI 9900Z 8900ZDB 7900Z



Sansui

SANSUI ELECTRIC CO., LTD.

## • SPECIFICATIONS

♦ Audio section

Power output

<9900Z>

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.015 % total harmonic distortion.
160 watts per channel into 8 ohms

<8900ZDB>

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.02 % total harmonic distortion
125 watts per channel into 8 ohms

<7900Z>

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.02 % total harmonic distortion
100 watts per channel into 8 ohms

Load impedance . . . . 8 ohms

Total harmonic distortion

<9900Z> . . . . . less than 0.015 % at or below rated min. RMS power output

<8900ZDB, 7900Z> . less than 0.02 % at or below rated min. RMS power output

Intermodulation distortion (60 Hz : 7 kHz = 4 : 1 SMPTE method)

<9900Z> . . . . . less than 0.015 % at rated power output

<8900ZDB, 7900Z> . less than 0.02 % at rated power output

Frequency response (at 1 watt)

Overall (from AUX) . 5 to 100,000 Hz, +0 dB, −3.0 dB

RIAA curve deviation (PHONO, 20 Hz to 20 kHz)
. . . . . +0.2 dB, −0.2 dB

Damping factor (20 Hz to 20 kHz, both channels driven)
. . . . . 40 into 8 ohms

Input sensitivity and impedance (at 1kHz)

PHONO-1, 2 . . . . . 2.5 mV/47 kilohms
(Max. input capability: 200 mV at 1 kHz, less than 0.1 % total harmonic distortion)

TAPE-1, 2 PLAY, AUX
. . . . . 150 mV/47 kilohms

Output level (at 1 kHz)

TAPE-1, 2 REC . . . . 150 mV/47 kilohms

Signal to noise ratio (short-circuit, A-network)

PHONO-1, 2 . . . . . 80 dB

AUX . . . . . 100 dB

Channel separation (at 1 kHz)

PHONO-1, 2 . . . . . 50 dB

AUX . . . . . 60 dB

Controls

BASS . . . . . ±10 dB at 50 Hz

TREBLE . . . . . ±10 dB at 10 kHz

HIGH FILTER . . . . . −3 dB at 5 kHz (6 dB/oct)

LOUDNESS (VOLUME: −30 dB position)
. . . . . 8 dB at 50 Hz
6 dB at 10 kHz

AUDIO MUTING . . −20 dB

to be continued▶

(SPECIFICATION)

### ♦ FM section

Tuning range . . . . . 88 to 108 MHz
Usable sensitivity
Mono IHF . . . . . 10.3 dBf (1.8 μV)
Stereo IHF . . . . . 19 dBf
50 dB quieting sensitivity
Mono . . . . . 14 dBf
Stereo . . . . . 37 dBf
Signal to noise ratio (at 65 dBf)
Mono . . . . . 80 dB
Stereo . . . . . 76 dB
Distortion (at 65 dBf)
<9900Z>
Mono . . . . . less than 0.08 % at 100 Hz
less than 0.05 % at 1,000 Hz
less than 0.08 % at 6,000 Hz
Stereo . . . . . less than 0.1 % at 100 Hz
less than 0.07 % at 1,000 Hz
less than 0.1 % at 6,000 Hz
<8900ZDB, 7900Z>
Mono . . . . . less than 0.15 % at 100 Hz
less than 0.1 % at 1,000 Hz
less than 0.15 % at 6,000 Hz
Stereo . . . . . less than 0.25 % at 100 Hz
less than 0.15 % at 1,000 Hz
less than 0.25 % at 6,000 Hz
Alternate channel selectivity (at 400 kHz)
<9900Z>
WIDE . . . . . 50 dB
NARROW . . . . . 75 dB
<8900ZDB, 7900Z>
. . . . . 60 dB
Capture ratio . . . . . 1.0 dB
Image response ratio . . 80 dB
Spurious response ratio
. . . . . 85 dB
IF response ratio . . . . 80 dB
Stereo separation . . . . 40 dB at 100 Hz
45 dB at 1,000 Hz
28 dB at 10,000 Hz
Frequency response . . 30 to 15,000 Hz
+0.3 dB, −1.0 dB
Hum and noise (at 65 dBf)
. . . . . 70 dB
Dolby noise reduction effect
. . . . . 10 dB <8900ZDB Only>
Antenna input impedance
. . . . . 300 ohms balanced
75 ohms unbalanced

### ♦ AM section

<9900Z, 8900ZDB, 7900Z>
Tuning range . . . . . 530 to 1,600 kHz
Usable sensitivity (bar antenna)
. . . . . 53 dB/m
Selectivity (±10 kHz) . 30 dB
Signal to noise ratio . . 45 dB
Distortion (at 30 % Modulation, 80 dB/m)
. . . . . less than 0.5 %
Image response ratio . . 40 dB at 1,000 kHz
IF response ratio . . . . 35 dB at 1,000 kHz

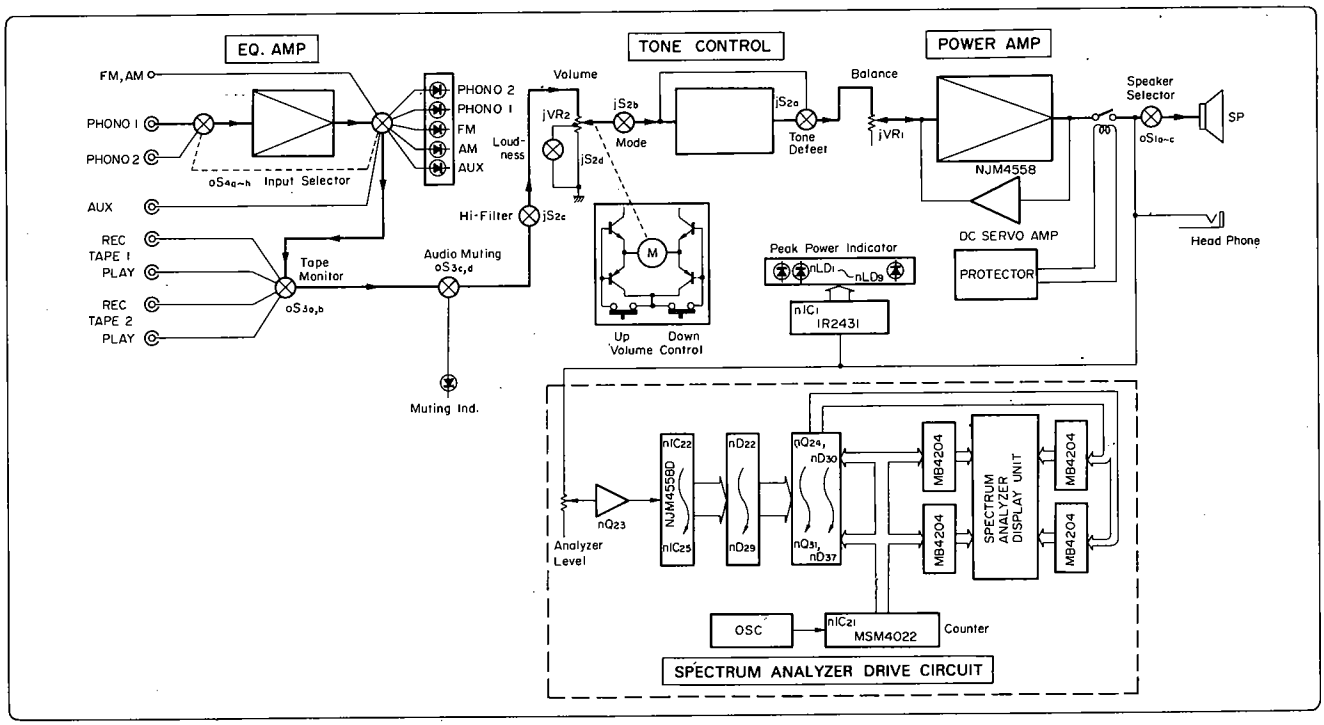
### ♦ Others

<9900Z>
Power requirements
Power voltage . . . . . 120, 220, 240 V
(50/60 Hz)
For U.S.A. and Canada
. . . . . 120 V (60 Hz)
Power consumption
Rated consumption
. . . . . 500 watts 630 VA
Dimensions . . . . . 565 mm (22-1/4") W
170 mm (6-3/4") H
441 mm (17-3/8") D
Weight . . . . . 17.5 kg (38.6 lbs) net
19.8 kg (43.7 lbs) packed
<8900ZDB>
Power requirements
Power voltage . . . . . 120, 220, 240 V
(50/60 Hz)
Power consumption
Rated consumption
. . . . . 450 watts 520 VA
Dimensions . . . . . 565 mm (22-1/4") W
170 mm (6-3/4") H
408 mm (16-1/8") D
Weight . . . . . 14.8 kg (32.6 lbs) net
17.1 kg (37.7 lbs) packed
<7900Z>
Power requirements
Power voltage . . . . . 120, 220, 240 V
(50/60 Hz)
For U.S.A. and Canada
. . . . . 120 V (60 Hz)
Power consumption
Rated consumption
. . . . . 370 watts 460 VA
Dimensions . . . . . 565 mm (22-1/4") W
170 mm (6-3/4") H
399 mm (15-3/4") D
Weight . . . . . 13.6 kg (30.0 lbs) net
16.0 kg (35.3 lbs) packed

* Design and specifications subject to changes without notice for improvements.

# 1. BLOCK DIAGRAM

## 1-1. Audio Section



# SCHEMATIC DIAGRAM & PARTS LIST

PURE POWER DC STEREO RECEIVER

# SANSUI 9900Z 8900ZDB 7900Z

SANSUI ELECTRIC CO., LTD.
14-1 Izumi 2-Chome, Suginami-ku, TOKYO 168, JAPAN
TELEPHONE: (03) 323-1111/TELEX. 232-2076

**Note:**
**This edition contains Parts List and Schematic Diagram only. Regular Service Manual will follow soon. Please use this issue for the time being, when servicing or ordering parts.**

# 1. PARTS LIST

## 1-1. F-3296 Digitally Frequency Display Circuit Board

### ● 9900Z/8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| ●Transistor | | |
| fQ51 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| fQ52 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| fQ53 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| fQ54 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| ●IC | | |
| fIC51 | 03604000 | MSM4011 |
| | 03604100 | TC4011P |
| fIC52 | 03604000 | MSM4011 |
| | 03604100 | TC4011P |
| ●Diode | | |
| fD51 | 03111600 | 1S2473D |
| fD52 | 03111600 | 1S2473D |
| fD53 | 03111600 | 1S2473D |
| ●Transistor | | |
| sQ51 | 03059500, 1 | 2SC945 R, Q |
| sQ52 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ53 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ54 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ55 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ56 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ57 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ58 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ59 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ60 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ61 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ62 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ63 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ64 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| ●IC | | |
| sIC51 | 07225100 | TD6301P |
| ●Diode | | |
| sD51~55 | 03111600 | 1S2473D |
| sPL51 | 00000100 | Fluorescent Display Tube |
| sPL52 | 04007600 | Pilot Lamp 8V 300 mA |
| sPL53 | 04006600 | Pilot Lamp 8V 150 mA |
| sR101 | 07267200 | RM6 5.6kΩ x 6 (Block Resistor) |
| sR102 | 07267400 | RM10 5.6kΩ x 10 (Block Resistor) |
| sR103 | 07267300 | RM8 5.6KΩ x 8 (Block Resistor) |

### ● 7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| ●Transistor | | |
| sQ51 | 03059500, 1 | 2SC945 R, Q |
| sQ52 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ53 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ54 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ55 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ56 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ57 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ58 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ59 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ60 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ61 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ62 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ63 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ64 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| ●IC | | |
| sIC51 | 07225100 | TD6301P |
| ●Diode | | |
| sD51~55 | 03111600 | 1S2473D |
| sPL51 | 00000100 | Fluorescent Display Tube |
| sPL52 | 04007600 | Pilot Lamp 8V 300 mA |
| sPL53 | 04006600 | Pilot Lamp 8V 150 mA |

## 1-2. F-3297 Preset Section Circuit Board

### ● 9900Z/8900ZDB/7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| fLD101 ~ 106 | 07246200 | Light Emitting Diode SEL1710K |
| fLD107 | 03193700 | Light Emitting Diode SEL1110S |
| fS101 | 11320900 | Push Switch, preset |
| fS102 | 11320900 | Push Switch, preset |
| fS103 | 11320900 | Push Switch, preset |
| fS104 | 11320900 | Push Switch, preset |
| fS105 | 11320900 | Push Switch, preset |
| fS106 | 11320900 | Push Switch, preset |
| fS107 | 11320900 | Push Switch, preset |

## 1-3. F-3298 Analog Dial Display Circuit Board
### ●9900Z/8900ZDB/7900Z

| Parts No. | Stock No | Description |
|---|---|---|
| | 07581700 | LED Holder (13-POINT) |
| ●Transistor | | |
| fQ1 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| fQ2 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| fQ3 | 07194700,1 | 2SA1015 Y,GR |
| fQ4 | 07197000,1 | 2SA733A R,Q |
| | 03059500,1 | 2SC945 R,Q |
| fQ5 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| fQ6 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| fQ7 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| fQ8 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| ●FET | | |
| fFT1 | 03703402~5 | 2SK163 L1,L2,M1,M2 |
| ●IC | | |
| fIC1 | 07225200 | TC9140P |
| fIC2 | 07225000 | TD6104P |
| fXO1 | 07237700 | Quartz Element NC-18C (7.2 MHz) |
| ●Diode | | |
| fD1 ~ 5 | 03111600 | 1S2473D |
| fC1 | 00306800 | 1 μF 50V E.B. |
| fSP1 | 07261000 | Buzzer PB-2711 |
| ●Transistor | | |
| sQ1 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| sQ2 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| sQ3 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| sQ4 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| sQ5 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| sQ6 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| sQ7 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| sQ8 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| sQ9 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| sQ10 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| sQ11 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| sQ12 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| sQ13 | 07194800,1 | 2SC1815 Y,GR |
| | 03059500,1 | 2SC945 R,Q |
| ●IC | | |
| sIC1 | 03610500 | TC4001BP |
| | 03609500 | MSM4001RS |
| ●Diode | | |
| sD1 ~ 4 | 03111600 | 1S2473D |
| sLD1~26 | 03193700 | Light Emitting Diode SEL1110S |

## 1-4. F-3299 Spectrum Analysis Display Circuit Board
### ●9900Z/8900ZDB/7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| ●Transistor | | |
| nQ21 | 07197001 | 2SA733A Q |
| | 07194700,1 | 2SA1015 Y,GR |
| nQ22 | 07197001 | 2SA733A Q |
| | 07194700,1 | 2SA1015 Y,GR |
| nQ23 | 03059501 | 2SC945 Q |
| | 07194800,1 | 2SC1815 Y,GR |
| nQ24 | 03059501 | 2SC945 Q |
| | 07194800,1 | 2SC1815 Y,GR |
| nQ25 | 03059501 | 2SC945 Q |
| | 07194800,1 | 2SC1815 Y,GR |
| nQ26 | 03059501 | 2SC945 Q |
| | 07194800,1 | 2SC1815 Y,GR |
| nQ27 | 03059501 | 2SC945 Q |
| | 07194800,1 | 2SC1815 Y,GR |
| nQ28 | 03059501 | 2SC945 Q |
| | 07194800,1 | 2SC1815 Y,GR |
| nQ29 | 03059501 | 2SC945 Q |
| | 07194800,1 | 2SC1815 Y,GR |
| nQ30 | 03059501 | 2SC945 Q |
| | 07194800,1 | 2SC1815 Y,GR |
| nQ31 | 03059501 | 2SC945 Q (9900Z,8900ZDB |
| | 07194800,1 | 2SC1815 Y,GR Only) |
| ●IC | | |
| nIC21 | 07246400 | MSM4022RS |
| nIC22 | 03607700 | NJM4558D |
| nIC23 | 03607700 | NJM4558D |
| nIC24 | 03607700 | NJM4558D |
| nIC25 | 03607700 | NJM4558D |
| nIC26 | 07246300 | MB4204M |
| nIC27 | 07246300 | MB4204M |
| nIC28 | 07246300 | MB4204M |
| nIC29 | 07246300 | MB4204M |
| nD21~37 | 03111600 | 1S2473D |
| nFL1 | 07237800 | FL Display Unit FG64SA6 |
| nPL1 | 04007600 | Pilot Lamp 8V 300 mA |

## 1-5. F-3301 Stereo Indicator Circuit Board
### ●9900Z/8900ZDB/7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| dLD1 | 03193700 | Light Emitting Diode SEL1110S |

## 1-6. F-3302 FM Mode Switch Circuit Board
### ●9900Z/8900ZDB/7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07581900 | LED Holder |
| oS5 | 07242600 | Push Switch |

## 1-7. F-3303 Audio Muting Circuit Board
### ●9900Z/8900ZDB/7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07581900 | LED Holder |
| nLD15 | 03193700 | Light Emitting Diode SEL1110S |

## 1-8. F-3304 Input Terminal Circuit Board

● 9900Z/8900ZDB/7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| | 22006000 | Terminal Board 2P |
| | 22006500 | Terminal Board 4P |
| | 22006200 | Terminal Board 4P |

## 1-9. F-3305 EQ. Amp. & Input Terminal Circuit Board

● 9900Z/8900ZDB/7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| ●IC | | |
| iIC1 | 07197400 | M5214L |
| iC6 | 00413200 | 0.016μF 100V F.C. |
| iC7 | 00414500 | 0.056μF 100V F.C. |
| iC9 | 00306000 | 3.3μF 25V E.B. |
| oS3 | 07242500 | Push Switch |
| oS4 | 07242800 | Push Switch |

## 1-10. F-3306 Input Source Indicator Circuit Board

● 9900Z/8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07581900 | LED Holder |
| nLD10 ~ 14 | 03193700 | Light Emitting Diode SEL1110S |

## 1-11. F-3307 Tone Control Circuit Board

● 9900Z/8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| ●Transistor | | |
| jQ1 | 07225400, 1 | 2SC2320L F, G |
| jQ2 | 07225400, 1 | 2SC2320L F, G |
| | 07206800, 1 | 2SA952 M, L |
| jQ3 | 07254800, 1 | 2SA854 Q, R |
| | 03033601, 2 | 2SB560MP E, F |
| | 07206900, 1 | 2SC2001 M, L |
| jQ4 | 07254900, 1 | 2SC1741 Q, R |
| | 03085201, 2 | 2SD438 E, F |
| | 07206800, 1 | 2SA952 M, L |
| jQ5 | 07254800, 1 | 2SA854 Q, R |
| | 03033601, 2 | 2SB560MP E, F |
| | 07206900, 1 | 2SC2001 M, L |
| jQ6 | 07254900, 1 | 2SC1741 Q, R |
| | 03085201, 2 | 2SD438 E, F |
| ●Diode | | |
| jD1 ~ 2 | 03103400 | 10D-1 |
| jVR1 | 07242200, 1 | Variable Resistor 150 kΩ (MN) |
| jVR3 | 07242300, 1 | Variable Resistor 100 kΩ (B) |
| jVR4 | 07242300, 1 | Variable Resistor 100 kΩ (B) |
| oS2 | 07243000 | Push Switch |

## 1-12. F-3308 Tone Control Circuit Board

● 9900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| ●Transistor | | |
| kQ1 | 07246800, 1 | 2SC2773 O, Y |
| kQ2 | 07246600, 1 | 2SA1169 O, Y |
| kQ3 | 07246800, 1 | 2SC2773 O, Y |
| kQ4 | 07246600, 1 | 2SA1169 O, Y |
| kQ5 | 03067200, 1 | 2SC2238B O, Y |
| kQ6 | 03010700, 1 | 2SA968B O, Y |
| kQ7 | 03066800, 1 | 2SC2071 B, V |
| kQ8 | 03010300, 1 | 2SA939 B, V |
| kQ9 | 03010300, 1 | 2SA939 B, V |
| kQ10 | 03010300, 1 | 2SA939 B, V |
| kQ11 | 03066800, 1 | 2SC2071 B, V |
| kQ12 | 03067400, 1 | 2SC1845 F, E |
| kQ13 | 03067400, 1 | 2SC1845 F, E |
| kQ14 | 03064001, 2 | 2SC1904 B, V |
| ●FET | | |
| kFT1 | 07110000, 1 | μPA68H L, M |
| ●IC | | |
| kIC1 | 03607700 | NJM4558D |
| ●Diode | | |
| kD5 ~ 7 | 03111600 | 1S2473D |
| kR1 | 00158700 | 10Ω 5W N.I.R. |
| kR3 | 00091700 | 0.33Ω 5W Ce.R. |
| kR4 | 00091700 | 0.33Ω x 2 5W Ce.R. |
| kC3 | 00380500 | 10000pF 500V C.C. |
| kC10 | 00302500 | 10μF 6.3V E.B. |
| kC11 | 00305200 | 4.7μF 16V E.B. |
| kC14 | 00408600 | 0.1μF 100V M.C. |
| kVR1 | 10336300 | Semi Variable Resistor 1 kΩ (B) |

● 8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| ●Transistor | | |
| kQ1 | 07246900, 1 | 2SC2774 O, Y |
| kQ2 | 07246700, 1 | 2SA1170 O, Y |
| kQ5 | 03069301 | 2SC2238 Y |
| kQ6 | 03012401 | 2SA968 Y |
| kQ7 | 03066800, 1 | 2SC2071 B, V |
| kQ8 | 03010300, 1 | 2SA939 B, V |
| kQ9 | 03010300, 1 | 2SA939 B, V |
| kQ10 | 03010300, 1 | 2SA939 B, V |
| kQ11 | 03066800, 1 | 2SC2071 B, V |
| kQ12 | 03067400, 1 | 2SC1845 F, E |
| kQ13 | 03067400, 1 | 2SC1845 F, E |
| kQ14 | 03064001, 2 | 2SC1904 B, V |
| ●FET | | |
| kFT1 | 07110000, 1 | μPA68H L, M |
| ●IC | | |
| kIC1 | 03607700 | NJM4558D |
| ●Diode | | |
| kD5 ~ 7 | 03111600 | 1S2473D |
| kR1 | 00158700 | 100Ω 5W N.I.R. |
| kR3 | 00091700 | 0.33Ω x 2 5W Ce.R. |
| kC3 | 00380500 | 1000pF 500V C.C. |
| kC10 | 00302500 | 10μF 6.3V E.B. |
| kC11 | 00305200 | 4.7μF 16V E.B. |
| kC14 | 00408600 | 0.1μF 100V M.C. |
| kVR1 | 10336300 | Semi Variable Resistor 1 kΩ (B) |

## 1-13. F-3300 Tuner Circuit Board

### ● 9900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07113200 | FM Front End Pack FD216U18 |
| ●Transistor | | |
| dQ1 | 03063401, 2 | 2SC1674 L, K |
| dQ2 | 03063401, 2 | 2SC1674 L, K |
| dQ3 | 03063401, 2 | 2SC1674 L, K |
| dQ5 | 07194800, 1 | 2SC1815 Y, GR |
| dQ6 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ7 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ8 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ9 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ10 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ11 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ12 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ13 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ14 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ15 | 03059501 ~ 3 | 2SC945 Q, P, K |
| dQ16 | 03059501 ~ 3 | 2SC945 Q, P, K |
| dQ17 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ18 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ19 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ20 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ21 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| ●IC | | |
| dIC1 | 03605900 | TA7302P |
| dIC2 | 03609300 | HA11225 |
| dIC3 | 03606800 | HA11223W |
| dIC4 | 03609500 | MSM4001RS |
| | 03610500 | TC4001BP |
| ●Diode | | |
| dD1 ~ 9 | 03117600 | 1S2473D |
| dC45 | 08450200 | 22 μF 6.3V E.B. |
| dCF1 | 07248600 | Ceramic Filter |
| dL1 | 07196400 | Low Pass Filter |
| dL2 | 07196400 | Low Pass Filter |
| dT1 | 42359300 | FM IF Coil |
| dT2 | 42362300 | FM IF Coil |
| dT3 | 42362400 | FM IF Coil |
| dVR1 | 07241200 | Semi Variable Resistor 5 kΩ (B) |
| dVR2 | 07241600 | Semi Variable Resistor 100 kΩ (B) |
| dVR3 | 07241200 | Semi Variable Resistor 5 kΩ (B) |
| dVR4 | 07241200 | Semi Variable Resisotr 5 kΩ (B) |
| dVR5 | 07241300 | Semi Variable Resistor 10 kΩ (B) |
| dS1 | 07251100 | Slide Switch |
| ●Transistor | | |
| eQ3 | 07194700, 1 | 2SA1015 Y, GR |
| eQ5 | 03059501, 2 | 2SC945 Q, P |
| ●IC | | |
| eIC1 | 07237200 | LA1245 |
| ●Varactor Diode | | |
| eD1 | 07197200 | KV1226 |
| eTC1 | 12301000 | Trimmer Capacitor 15 pF |
| eTC2 | 12301000 | Trimmer Capacitor 15 pF |
| eCF1 | 07254000 | Ceramic Filter |
| eL1 | 46027100 | AM OSC Coil |
| eL2 | 42306200 | AM IF Coil |
| eVR1 | 07241300 | Semi Variable Resistor 10 kΩ (B) |

### ● 8900ZDB

| Parts NO. | Stock No. | Description |
|---|---|---|
| ●Transistor | | |
| eQ3 | 07194700, 1 | 2SA1015 Y, GR |
| eQ5 | 03059501, 2 | 2SC945 Q, P |
| ●IC | | |
| eIC1 | 07237200 | LA1245 |
| ●Varactor Diode | | |
| eD1 | 07197200 | KV1226 |
| eTC1 | 12301000 | Trimmer Capacitor 15pF |
| eTC2 | 12301000 | Trimmer Capacitor 15pF |
| eCF1 | 07254000 | Ceramic Filter |
| eL1 | 46027100 | AM OSC Coil |
| eL2 | 42306200 | AM IF Coil (455 kHz) |
| eVR1 | 07241300 | Semi Variable Resistor 10 kΩ (B) |
| | 07113200 | Front End Pack FD216U18 |
| ●Transistor | | |
| dQ1 | 03063401, 2 | 2SC1674 L, K |
| dQ5 | 07194800, 1 | 2SC1815 Y, GR |
| dQ6 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ7 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ8 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ9 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ10 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ11 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ12 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ13 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ14 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ15 | 03059501 ~ 3 | 2SC945 Q, P, K |
| dQ16 | 03059501 ~ 3 | 2SC945 Q, P, K |
| dQ17 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ18 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ19 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ20 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ21 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| ●IC | | |
| dIC1 | 03605900 | TA7302P |
| dIC2 | 03609300 | HA11225 |
| dIC3 | 03606800 | HA1223W |
| dIC4 | 03609500 | MSM4001RS |
| | 03610500 | TC4001BP |
| ●Diode | | |
| dD1 ~ 9 | 03117600 | 1S2473D |
| dC45 | 08450200 | 22μF 6.3V E.B. |
| dCF1 | 07264900 | Ceramic Filter |

| Parts No. | Stock No. | Description |
|---|---|---|
| dL1 | 07196400 | Low Pass Filter |
| dL2 | 07196400 | Low Pass Filter |
| dT1 | 42359300 | FM IF COIL (10.7 MHz) |
| dT2 | 42362300 | FM IF COIL |
| dT3 | 42362400 | FM IF COIL |
| dVR1 | 07241200 | Semi Variable Resistor 5 kΩ (B) |
| dVR2 | 07241600 | Semi Variable Resistor 100 kΩ (B) |
| dVR3 | 07241200 | Semi Variable Resistor 5 kΩ (B) |
| dVR4 | 07241200 | Semi Variable Resisotr 5 kΩ (B) |
| dVR5 | 07241300 | Semi Variable Resistor 10 kΩ (B) |
| dS1 | 07251100 | Slide Switch |

## ● 7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07113200 | FM Frontend Pack FD216U18 |
| •Transistor | | |
| dQ1 | 03063401, 2 | 2SC1674 L, K |
| dQ4 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ5 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ6 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ7 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ8 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ9 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ10 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ11 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ12 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ13 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ15 | 03059501 ~ 3 | 2SC945 Q, P, K |
| dQ16 | 03059501 ~ 3 | 2SC945 Q, P, K |
| dQ19 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ20 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ21 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| •IC | | |
| dIC1 | 03605900 | TA7302P |
| dIC2 | 03609300 | HA11225 |
| dIC3 | 03606800 | HA11223W |
| dIC4 | 03609500 | MSM4001RS |
| | 03610500 | TC4001BP |
| •Diode | | |
| dD1 ~ 9 | 03117600 | 1S2473D |
| dC45 | 08450200 | 22μF 6.3V E.B. |
| dCF1 | 07264900 | Ceramic Filter |
| dL1 | 07196400 | Low Pass Filter |
| dL2 | 07196400 | Low Pass Filter |
| dT1 | 42359300 | FM IF Coil |
| dT2 | 42362300 | FM IF Coil |
| dT3 | 42362400 | FM IF Coil |
| dVR1 | 07241200 | Semi Variable Resistor 5 kΩ (B) |
| dVR2 | 07241600 | Semi Variable Resistor 100 kΩ (B) |
| dVR3 | 07241200 | Semi Variable Resistor 5 kΩ (B) |
| dVR4 | 07241200 | Semi Variable Resistor 5 kΩ (B) |
| dVR5 | 07241300 | Semi Variable Resistor 10 kΩ (B) |
| dS1 | 07251100 | Slide Switch |
| •Transistor | | |
| eQ1 ~ 4 | 07194800, 1 | 2SC1815 Y, GR |
| eQ5 | 03059501, 2 | 2SC945 Q, P |
| •IC | | |
| eIC1 | 07237200 | LA1245 |
| eD1 | 07197200 | Varactor Diode KV1226 |
| •Diode | | |
| eD3, 4 | 03117600 | 1S2473D |
| eTC1, 2 | 12301000 | Trimmer Capacitor 15pF |
| eCF1 | 07254000 | Ceramic Filter |
| eCF2 | 07265100 | Ceramic Filter |
| eL1 | 46027100 | AM OSC Coil |
| eL2 | 42306200 | AM IF Coil 455 kHz |
| eVR1 | 07241300 | Semi Variable Resistor 10 kΩ (B) |
| eVR2 | 07241500 | Semi Variable Resistor 50 kΩ (B) |

## 1-14. F-3309 Power Supply Circuit Board

### ● 9900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| •Transistor | | |
| mQ1 | 03085201, 2 | 2SD438 E, F |
| mQ2 | 03084801, 2 | 2SD358 D, E |
| mQ3 | 03084302, 3 | 2SD381 L, K |
| mQ4 | 03084302, 3 | 2SD381 L, K |
| mQ5 | 03084302, 3 | 2SD381 L, K |
| •Diode | | |
| mD1 | 03116700 | SS-7 |
| mD2 | 03116800 | SS-7R |
| mD3 | 03117000 | RB-152 |
| •Zener Diode | | |
| mDZ1 | 03172100 | RD30F B |
| mDZ2 | 03172100 | RD30F B |
| mDZ3 | 03164700 | RD20E B |
| mDZ4 | 03164100 | RD6.8E B |
| mDZ5 | 03163300 | RD15E B |
| mDZ6 | 07181500 | RD22E B |
| mR1 | 00105900 | 1 kΩ 5W C.R. |
| mR2 | 00194500 | 1.8 kΩ 3W N.I.R. |
| mR17 | 00181200 | 220Ω 1W N.I.R. |
| mR18 | 00187500 | 18 kΩ 2W N.I.R. |
| mR19 | 00188900 | 33Ω 2W N.I.R. |
| mC2 | 00380500 | 10000pF 500V C.C. |
| mC3 | 00380500 | 10000pF 500V C.C. |
| mC4 | 00380500 | 10000pF 500V C.C. |
| mC5 | 00380500 | 10000pF 500V C.C. |
| PC1 | 00386100 | 4700pF 150V C.C. |
| | 00386500 | 4700pF 125V C.C. |
| pF1 | 04341000 | Fuse 12A 125V (100V ~ 120V) |
| | 04323000 | Fuse 6.0A 125V (220V ~ 240V) |

to be continued ▶

● 8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| •Transistor | | |
| mQ1 | 03085201, 2 | 2SD438 E, F |
| mQ2 | 03084801, 2 | 2SD358 D, E |
| mQ3 | 03084302, 3 | 2SD381 L, K |
| mQ4 | 03084302, 3 | 2SD381 L, K |
| mQ5 | 03084302, 3 | 2SD381 L, K |
| •Diode | | |
| mD1 | 03113100 | SS-5 |
| mD2 | 03113200 | SS-5R |
| mD3 | 03117000 | RB-152 |
| •Zener Diode | | |
| mDZ1 | 03172100 | RD30F B |
| mDZ2 | 03172100 | RD30F B |
| mDZ3 | 03164700 | RD20E B |
| mDZ4 | 03164100 | RD6.8E B |
| mDZ5 | 03163300 | RD15E B |
| mDZ6 | 07181500 | RD22E . B |
| mR1 | 00108400 | 820Ω 5W C.R. |
| mR2 | 00194500 | 1.8 kΩ 3W N.I.R. |
| mR17 | 00181200 | 220Ω 1W N.I.R. |
| mR18 | 00187500 | 18 kΩ 2W N.I.R. |
| mR19 | 00188900 | 33Ω 2W N.I.R. |
| mC2 | 00380500 | 10000pF 500V C.C. |
| mC3 | 00380500 | 10000pF 500V C.C. |
| mC4 | 00380500 | 10000pF 500V C.C. |
| mC5 | 00380500 | 10000pF 500V C.C. |
| pF1 | 04325900 | Fuse 10A 125V (100V ~ 120V) |
| | 04322900 | Fuse 5.0A 125V (220V ~ 240V) |

## 1-15. F-3310 Protector Circuit Board

● 9900Z/8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| kR2 | 00158700 | 10Ω 5W N.I.R. |
| kR22 | 00188200 | 2.2Ω 2W N.I.R. |
| kL1 | 42903700 | Peaking Coil |
| •Transistor | | |
| IQ1 | 03010300 | 2SA939B |
| •IC | | |
| IIC1 | 03609000 | HA12002 |
| •Diode | | |
| ID1 ~ 5 | 03103400 | 10D-1 |
| ID6 | 03111600 | 1S2473D |
| IPR1 | 03201300 | Thermistor |
| IC3 | 00302900 | 220μF 6.3V E.B. |
| IRL1 | 11504300 | Relay |
| IRL2 | 07198400 | Relay |
| IRL3 | 07198400 | Relay |
| IRL4 | 07198400 | Relay (9900Z Only) |
| | 07202900 | Terminal Board 4P, speaker |

## 1-16. F-3311 Speaker Selector Switch Circuit Board

● 9900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| oS1 | 07243100 | Push Switch |

● 8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| oS1 | 07242900 | Push Switch |

## 1-17. F-3312 Head Phone Jack Circuit Board

● 9900Z/8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| nC3 | 00306800 | 1μF 50V E.B. |
| nVR1 | 07242400, 1 | Variable Resistor 100 kΩ (B) |
| oJ1 | 07204100 | Head Phone Jack |
| pR1 | 00187800 | 220Ω 2W N.I.R. |

## 1-18. F-3313 Manual Tuning (Up/Down) Detector Circuit Board

● 9900Z/8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| fPH51 | 07237400 | Photo Coupler |
| fPH52 | 07237400 | Photo Coupler |

## 1-19. F-3314 Master Volume (Up/Down) Switch Circuit Board

● 9900Z/8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| jS1 | 07246100 | Push Switch |
| jS2 | 07246100 | Push Switch |

## 1-20. F-3316 Power Peak Indicator Circuit Board

● 9900Z/8900ZDB/7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07581600 | LED Holder (8-POINT) |
| •IC | | |
| nIC1 | 07246000 | IR2431 |
| •Diode | | |
| nD1 | 03103300 | 1N60 |
| nLD1 ~ 9 | 03193700 | Light Emitting Diode SEL1110S |

## 1-21. F-3317 IF Output (AM Stereo) Circuit Board

● 9900Z/8900ZDB/7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07257600 | Terminal Board 1P, AM Stereo |

## 1-22. F-3431 AM Channel Selector Circuit Board

● 9900Z/8900ZDB/7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| fS1 | 11102800 | Slide Switch |

## 1-23. F-3401 Speaker Terminal Circuit Board

● 7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07183300 | 8P Terminal Board |

## 1-24. F-3402 Head Phone Jack Circuit Board

● 7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| nVR100 | 07242400, 1 | Variable Resistor 100 kΩ (B) |
| oJ1 | 07204100 | Head Phone Jack |

## 1-25. F-3403 Speaker Selector Switch Circuit Board

● 7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| oS1 | 07255300, 1 | Push Switch |

## 1-26. F-3405 Rectifier Circuit Board

● 7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| •Diode | | |
| mD1 | 03113100 | SS-5 |
| mD2 | 03113200 | SS-5R |
| mC3 | 00380600 | 2200pF 500V C.C. |
| mC16 | 00380600 | 2200pF 500V C.C. |
| mC17 | 00380600 | 2200pF 500V C.C. |
| mC18 | 00380600 | 2200pF 500V C.C. |
| pC2 | 08302100 | 4700pF 125V C.C. |
| | 00386100 | 4700pF 150V C.C. |

## 1-27. F-3406 Driver Amp. Circuit Board

● 7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| •Transistor | | |
| kQ1 ~ 4 | 03067400, 1 | 2SC1845 F, E |
| kQ5, 6 | 03010900, 1 | 2SA992 F, E |
| kQ7 | 03010300, 1 | 2SA939 B, V |
| kQ8 | 03066800, 1 | 2SC2071 B, V |
| •IC | | |
| kIC1 | 03607700 | NJM4558D |
| •Diode | | |
| kD1 | 03111800 | 1S1588 |
| | 03111600 | 1S2473D |
| kD2 | 03111800 | 1S1588 |
| | 03111600 | 1S2473D |
| kD3 | 03111800 | 1S1588 |
| | 03111600 | 1S2473D |
| kC14 | 00306200 | 4.7μF 25V E.B. |
| kC15 | 00305400 | 10μF 25V E.B. |

## 1-28. F-2688 Dolby NR Circuit Board

● 8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| •IC | | |
| IC01 | 03603400 | NE545B |
| •Diode | | |
| D01 | 03104000 | 1N34A |
| rD601 | 03103400 | 10D-1 |
| L01 | 49002600 | Inductor |
| VR01 | 10354300 | Semi Variable Resistor 100 kΩ (B) |

## 1-29. F-3407 Power Supply & Power Amp. Circuit Board

● 7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| •Transistor | | |
| kQ9 | 03067400, 1 | 2SC1845 F, E |
| kQ10 | 03067201 | 2SC2238B Y |
| kQ11 | 03010701 | 2SA968B Y |
| kQ12 | 07260200, 1 | 2SC2773LB O, Y |
| kQ13 | 07260100, 1 | 2SA1169LB O, Y |
| kR34 | 00191700 | 0.68Ω 2W N.I.R. |
| kR35 | 00191700 | 0.68Ω 2W N.I.R. |
| kR36 | 00191700 | 0.68Ω 2W N.I.R. |
| kR37 | 00191700 | 0.68Ω 2W N.I.R. |
| kR38 | 00185500 | 10Ω 2W N.I.R. |
| kR39 | 00186000 | 1Ω 2W N.I.R. |
| kR40 | 00190600 | 4.7Ω 2W N.I.R. |
| kL1 | 42903700 | Peaking Coil |
| kVR1 | 10350700 | Semi Variable Resistor 1 kΩ |
| •Transistor | | |
| IQ1 | 03010900, 1 | 2SA992 F, E |
| •IC | | |
| IIC1 | 03609000 | HA12002 |
| •Diode | | |
| ID1 | 03111800 | 1S1588 |
| | 03111600 | 1S2473D |
| ID3 | 03103400 | 10D-1 |
| IC3 | 00303800 | 330μF 10V E.B. |
| IRL1 | 07198400 | Relay |
| •Transistor | | |
| mQ1 | 03033601, 2 | 2SB560MP E, F |
| mQ2 | 03085201, 2 | 2SD438 E, F |
| mQ3 | 03083902, 3 | 2SD313AL E, F |
| mQ4 | 03083902, 3 | 2SD313AL E, F |
| mQ5 | 03085201, 2 | 2SD438 E, F |
| mQ6 | 03085201, 2 | 2SD438 E, F |
| mQ7 | 03084501, 2 | 2SD356 D, E |
| •Diode | | |
| mD5 | 03117000 | RB-152 |
| mD9 | 03103400 | 10D-1 |
| •Zener Diode | | |
| mZD1 | 03164900 | RD-22E B |
| mZD2 | 03163300 | RD-15E B |
| mDZ3 | 03164900 | RD-22E B |
| mZD4 | 03165700 | RD-33E B |
| mZD5 | 03164100 | RD-6.8E B |
| mZD6 | 03163300 | RD-15E B |
| mR3 | 00180800 | 1.8 kΩ 1W N.I.R. |
| mR15 | 00188900 | 33Ω 2W N.I.R. |
| mR18 | 00192000 | 820Ω 2W N.I.R. |
| mR27 | 00190700 | 56Ω 2W N.I.R. |
| mC4 | 00380600 | 2200pF 500V C.C. |
| mF1 ~ 3 | 07188400 | Fuse 1A 250 V |

## 1-30. F-3430 Manual Tuning (Up/Down) Switch Circuit Board

●7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| fS108 | 07246100 | Push Switch |
| fS109 | 07246100 | Push Switch |

## 1-31. Other Parts

●9900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07656310 | Wood Bonnet |
| | 07653120 | Front Panel Ass'y |
| | 07648800 | Panel Side Frame |
| | 07648900 | Front Glass |
| | 07580300 | Push Knob, power |
| | 07628000 | Push Knob Guide |
| | 11316500 | Push Switch, power |
| | 07646100 | Knob, analyzer level |
| | 07204100 | Head Phone Jack |
| | 07580300 | Push Knob, speakers |
| | 07581300 | Push Knob Guide |
| | 07615600 | Knob, bass, treble, balance |
| | 07580300 | Push Knob, tone, mode, hi-filter, loudness |
| | 07581300 | Push Knob Guide |
| | 07649810 | Preset Knob Ass'y |
| | 07652300 | Push Knob, volume |
| | 07578000 | Indicator (Red) |
| | 07580300 | Push Knob, audio muting, tape mon. 1, 2 |
| | 07580900 | Push Knob Guide |
| | 07580300 | Push Knob, input selector |
| | 07652400 | Push Knob Guide |
| | 07646000 | Knob, tuning |
| | 07580900 | Push Knob, FM IF band, FM mode/FM muting |
| | 07580900 | Push Knob Guide |
| | 00000100 | Fluorescent Display Unit |
| | 54464600 | Smoked Plate (A) |
| | 07652700 | Dial Back Plate |
| | 07616100 | Indicator (Red) |
| | 07578200 | Indicator (Amber) |
| | 07600300 | Indicator Film |
| | 07646300 | Indicator (9-point) |
| | 07615800 | Indicaotr (14-point) |
| | 07654500 | Indicator (4-point) |
| | 07652500 | Dial Scale |
| | 07237800 | Fluorescent Display Unit |
| | 07616300 | Smoked Plate |
| | 07607300 | Sansui Badge (B) |
| | 55168210 | Leg |
| | 38004900 | Power Supply Cord |
| | 39104900 | Strain Relief |
| | 07217500 | AC Outlet |
| | 07202900 | Speaker Terminal |
| | 07257600 | 1P Input Terminal, AM stereo adaptor |
| | 07563310 | Battery Case Ass'y |
| | 22006000 | 2P Input Terminal, phono-1 |
| | 22006200 | 4P Input Terminal, phono-2, aux |
| | 22006500 | 4P Input Terminal, tape-1 |
| | 22006500 | 4P Input Terminal, tape-2 |
| | 07204800 | AM Bar Antenna |
| | 22103110 | Antenna Terminal Board |
| | 22301900 | Ground Terminal |
| | 04007600 | Pilot Lamp 8 V 300 mA |
| | 04006600 | Pilot Lamp 8 V 150 mA |
| | 07646200 | Tuning Unit |
| | 15002001 | Power Transformer |
| | 07255000 | Fan |
| | 07255100 | Motor |
| | 07651910 | Fan Cover |
| mZ1 | 07254300 | 10000μF 100 V E.C. |
| mZ2 | 07254300 | 10000μF 100 V E.C. |

● 8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07656310 | Wood Bonnet |
| | 07653220 | Front Panel Ass'y |
| | 07648800 | Panel Side Frame |
| | 07648900 | Front Glass |
| | 07580300 | Push Knob, power |
| | 07628000 | Push Knob Guide |
| | 11316500 | Push Switch, power |
| | 07646100 | Knob, analyzer level |
| | 07204100 | Head Phone Jack |
| | 07580300 | Push Knob, speakers |
| | 07581300 | Push Knob Guide |
| | 07615600 | Knob, bass, treble, balance |
| | 07580300 | Push Knob, tone, mode, hi-filter, loudness |
| | 07581300 | Push Knob Guide |
| | 07649810 | Preset Knob Ass'y |
| | 07652300 | Push Knob, volume |
| | 07578000 | Indicator (Red) |
| | 07580100 | Push Knob, audio muting, tape mon. 1, 2 |
| | 07580900 | Push Knob Guide |
| | 07580300 | Push Knob, input selectors |
| | 07652400 | Push Knob Guide |
| | 07646000 | Knob, tuning |
| | 07580100 | Push Knob, dolby, FM mode/ FM tuning |
| | 00000100 | Fluorescent Display Unit |
| | 54464600 | Smoked Plate (A) |
| | 07652700 | Dial Back Plate |
| | 07616100 | Indicator (Red) |
| | 07578200 | Indicator (Amber) |
| | 07600300 | Indicator Film |
| | 07646300 | Indicator (9-point) |
| | 07615800 | Indicator (14-point) |
| | 07654500 | Indicator (4-point) |
| | 07652500 | Dial Scale |
| | 07237800 | Fluorescent Display Unit, spectrum analyzer |
| | 07616300 | Smoked Plate |
| | 07607300 | Sansui Badge |
| | 55168210 | Leg |
| | 38004700 | Power Supply Cord |
| | 39106000 | Strain Relief |
| | 07202900 | Speakers Terminal, |
| | 07257600 | 1P Input Terminal, AM stereo adaptor |
| | 22006000 | 2P Input Terminal, phono-1 |
| | 22006200 | 4P Input Terminal, phono-2, aux |
| | 22006500 | 4P Input Terminal, tape 1 |
| | 22006500 | 4P Input Terminal, tape 2 |
| | 07563310 | Battery Case Ass'y |
| | 22103110 | Antenna Terminal Board |
| | 07204800 | AM Bar Antenna |
| | 22301900 | Ground Terminal |
| | 04007600 | Pilot Lamp 8 V 300 mA |
| | 07646200 | Tuning Unit |
| | 04006600 | Pilot Lamp 8 V 150 mA |
| | 15002101 | Power Transformer |
| mZ1 | 07254200 | 10000μF 80 V E.C. |
| mZ2 | 07254200 | 10000μF 80 V E.C. |

● 7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07720310 | Wood Bonnet |
| | 07653320 | Front Panel Ass'y |
| | 07648800 | Panel Side Frame |
| | 07648900 | Front Glass |
| | 07580300 | Push Knob, power |
| | 07628000 | Push Knob Guide |
| | 11316500 | Push Switch, power |
| | 07204100 | Head Phone Jack |
| | 07646100 | Knob, analyzer level |
| | 07580300 | Push Knob, speaker |
| | 07581300 | Push Knob Guide |
| | 07615600 | Knob, bass, treble, balance |
| | 07580300 | Push Knob, tone, mode, hi-filter, loudness |
| | 07581300 | Push Knob Guide |
| | 07652300 | Push Knob, volume |
| | 07649810 | Preset Knob Ass'y |
| | 07580100 | Push Knob, audio muting, tape mon. 1, 2 |
| | 07580900 | Push Knob Guide |
| | 07580300 | Push Knob, input selectors |
| | 07652400 | Push Knob Guide |
| | 07652300 | Push Knob, tuning |
| | 07580100 | Push Knob, tuning selector, FM mode/FM muting |
| | 07580900 | Push Knob Guide |
| | 00000100 | Fluorescent Display Unit |
| | 54464600 | Smoked Plate (A) |
| | 07650910 | Dial Back Plate |
| | 07616100 | Indicator (Red) |
| | 07578000 | Indicator (Red) |
| | 07600300 | Indicator Film |
| | 07646300 | Indicator (9-point) |
| | 07615800 | Indicator (14-point) |
| | 07654500 | Indicator (4-point) |
| | 07652600 | Dial Scale |
| | 07237800 | Fluorescent Display Unit, spectrum analyzer |
| | 07705800 | Smoked Plate |
| | 07607300 | Sansui Badge |
| | 55168210 | Leg |
| | 38004700 | Power Supply Cord |
| | 39106000 | Strain Relief |
| | 07189600 | AC Outlet |
| | 07183300 | Speaker Terminal |
| | 07257600 | 1P Input Terminal |
| | 07563310 | Battery Case Ass'y |
| | 07204800 | AM Bar Antenna |
| | 22103110 | Antenna Terminal Board |
| | 22006000 | 2P Input Terminal, phono-1 |
| | 22006200 | 4P Input Terminal, phono-2, aux |
| | 22006500 | 4P Input Terminal, tape-1 |
| | 22006500 | 4P Input Terminal, tape-2 |
| | 22301500 | Ground Terminal |
| | 04007600 | Pilot Lamp 8 V, 300 mA |
| | 04006600 | Pilot Lamp 8 V, 150 mA |
| | 15002201 | Power Transformer |
| mC19 | 07255200 | 8200μF 71V E.C. |
| mC20 | 07255200 | 8200μF 71V E.C. |

## 1-32. Packing Materials

● 9900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07654200 | Carton Case |
| | 07654100 | Styrofoam Packing |
| | 91167420 | Vinyl Cover |

● 8900ZDB

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07663300 | Carton Case |
| | 07654100 | Styrofoam Packing |
| | 91167420 | Vinyl Cover |

● 7900Z

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07663400 | Carton Case |
| | 07654100 | Styrofoam Packing |
| | 91167420 | Vinyl Bag |

## 1-33. Accessory Parts

● 9900Z

| | Stock No. | Description |
|---|---|---|
| | 38201200 | FM Antenna |
| | 07577400 | Operating Instruction |

● 8900ZDB

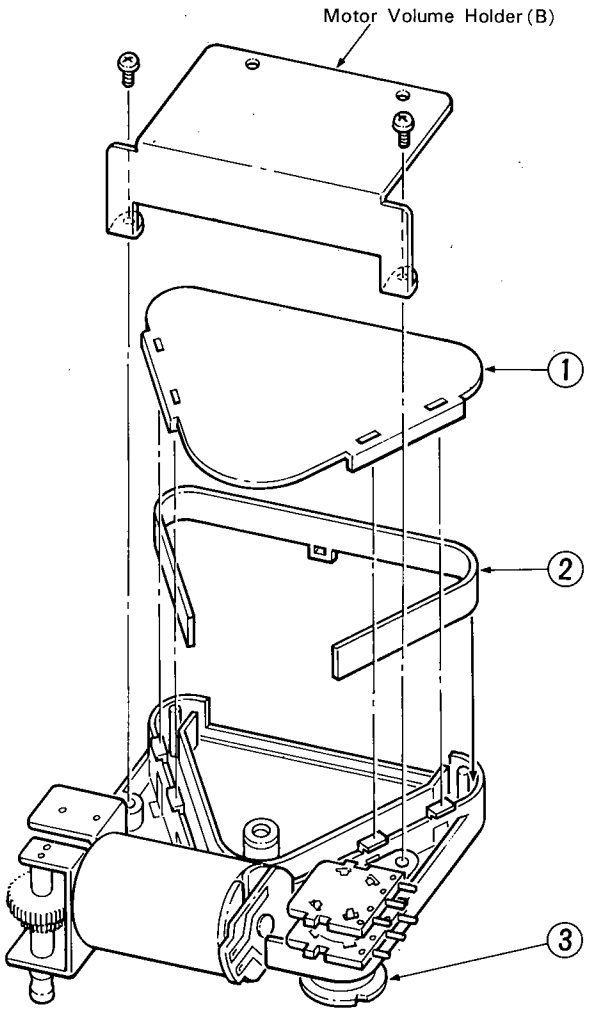
| | Stock No. | Description |
|---|---|---|
| | 07577500 | Operating Instruction |
| | 38201200 | FM Antenna |

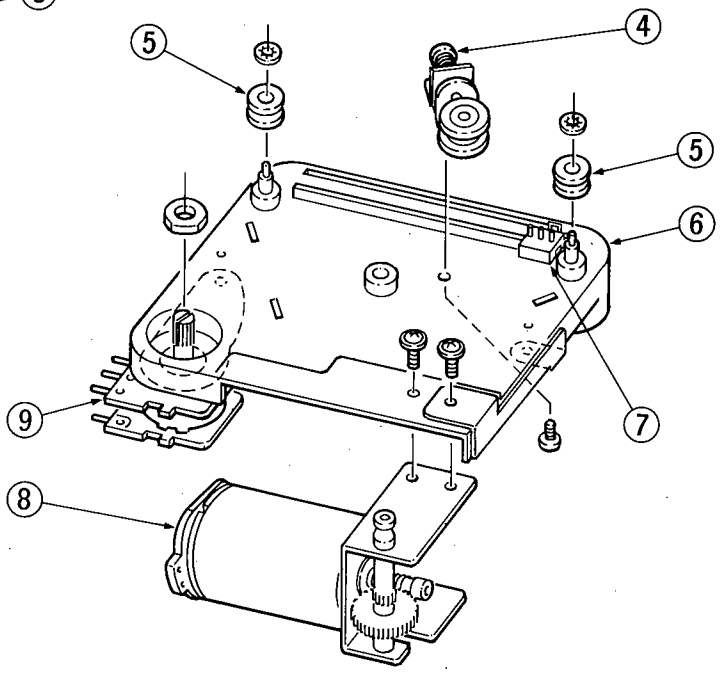
● 7900Z

| | Stock No. | Description |
|---|---|---|
| | 38201200 | FM Antenna |
| | 07577600 | Operating Instruction |

# 2. Exploded Viem of Motor Volume Control Mechanism & Parts List

- 9900Z/8900ZDB/7900Z



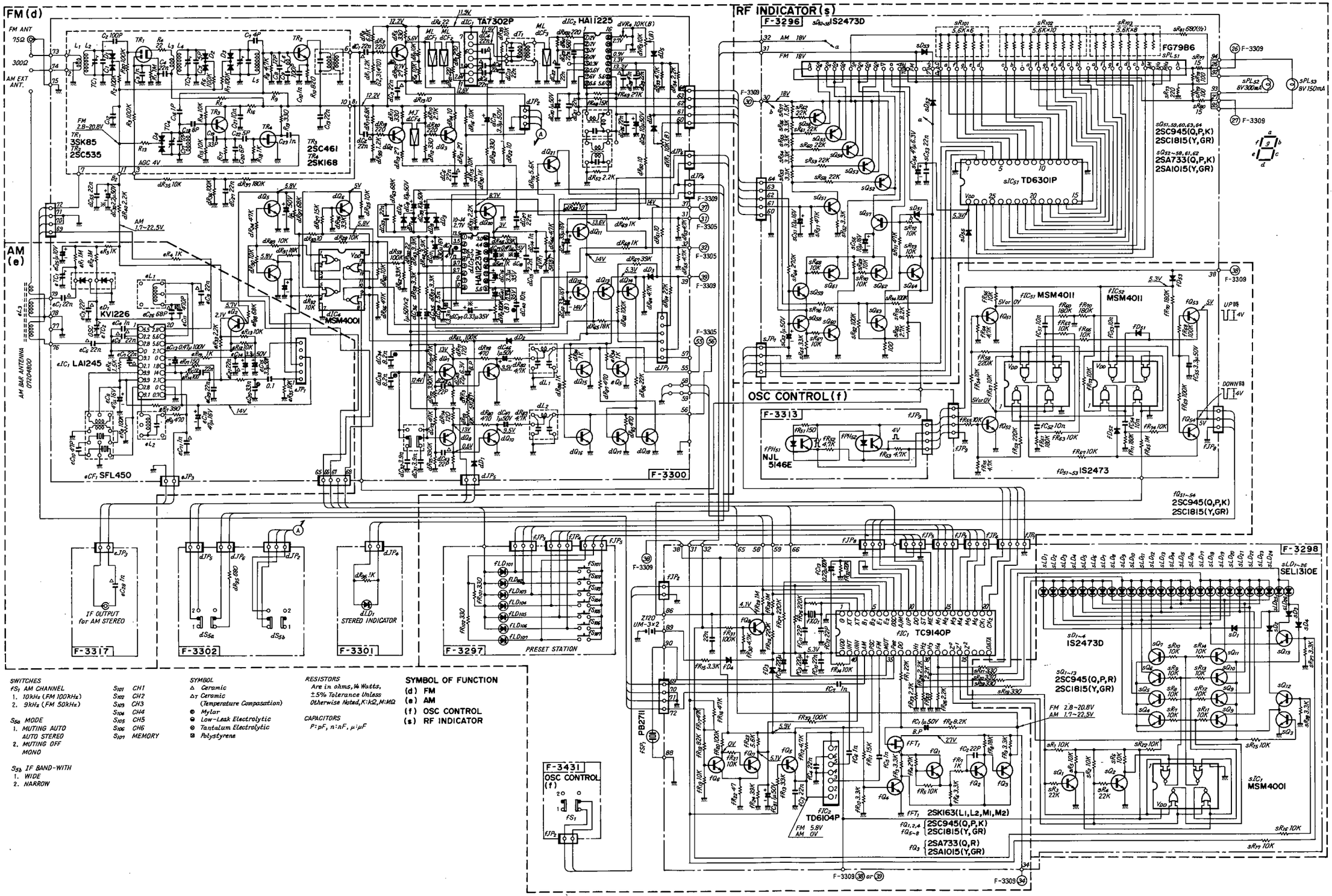




- Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| 1 | 07600400 | Housing Cover |
| 2 | 07600300 | Indicator Film |
| 3 | 07600500 | Pulley D-17 |
| 4 | 07600910 | Tension Ass'y |
| 5 | 07233400 | Pulley (Small) |
| 6 | 07600210 | Housing |
| 7 | 07600600 | Film Guide |
| 8 | 07234000 | Motor Unit (B) |
| 9 | 07242100 | Variable Resistor 150kΩ (B) x 2 |

# 3. SCHEMATIC DIAGRAM 3-1. 9900Z Tuner Section

* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
* Design and specifications subject to change without notice for improvement.
* 改良のため、予告なく製匠、仕様の一部を変更することがあります。




SWITCHES

$fS_1$ AM CHANNEL
1. 10kHz (FM 100kHz)
2. 9kHz (FM 50kHz)

$S_{5a}$ MODE
1. MUTING AUTO
   AUTO STEREO
2. MUTING OFF
   MONO

$S_{5b}$ IF BAND-WITH
1. WIDE
2. NARROW

$S_{101}$ CH1
$S_{102}$ CH2
$S_{103}$ CH3
$S_{104}$ CH4
$S_{105}$ CH5
$S_{106}$ CH6
$S_{107}$ MEMORY

SYMBOL
△ Ceramic
△T Ceramic (Temperature Compasation)
Ⓜ Mylar
Ⓛ Low-Leak Electrolytic
Ⓣ Tantalum Electrolytic
▨ Polystyrene

RESISTORS
Are in ohms, ¼ Watts, ±5% Tolerance Unless Otherwise Noted, K:kΩ, M:MΩ

CAPACITORS
P:pF, n:nF, μ:μF

# 900Z Audio Section

* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
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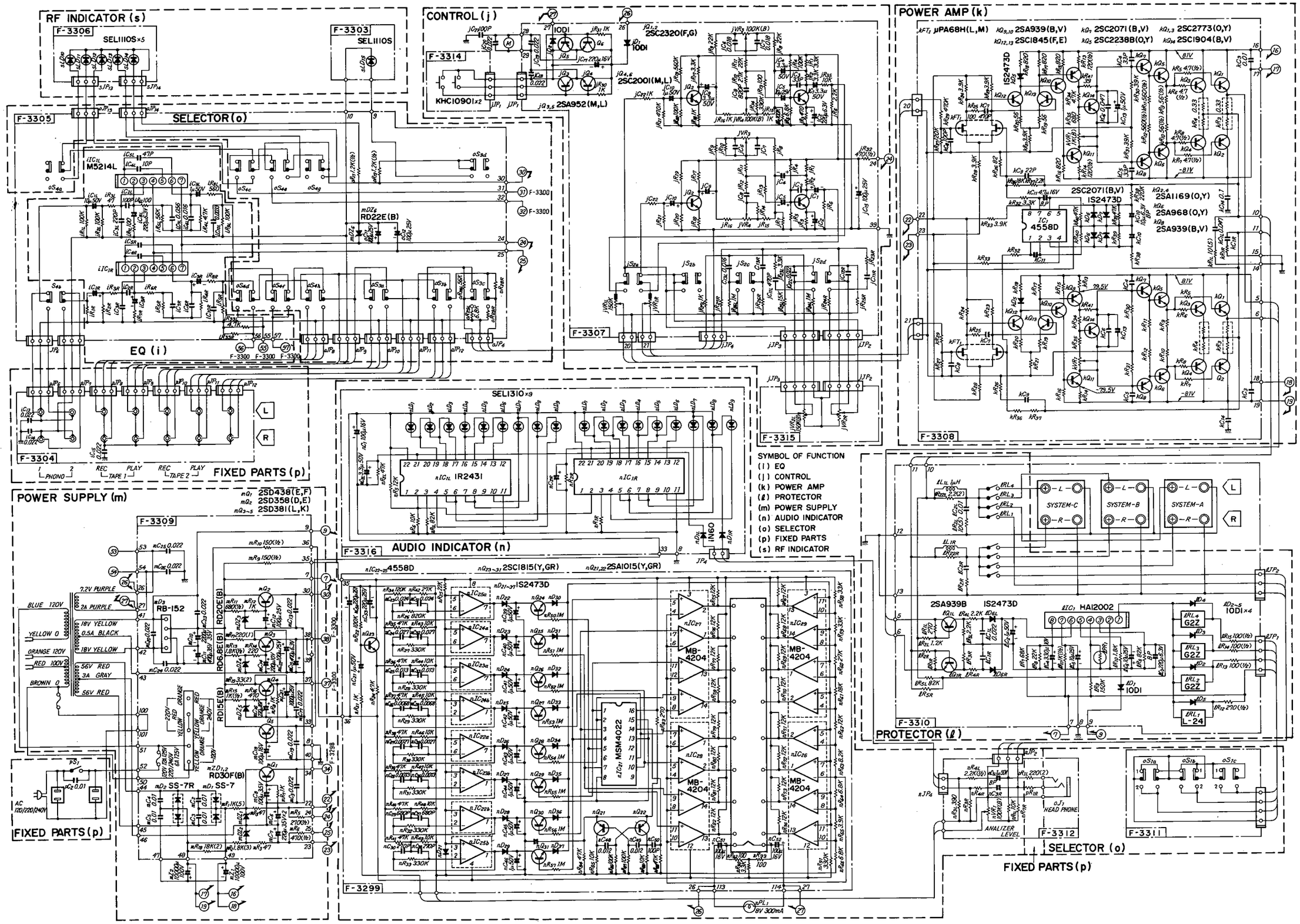
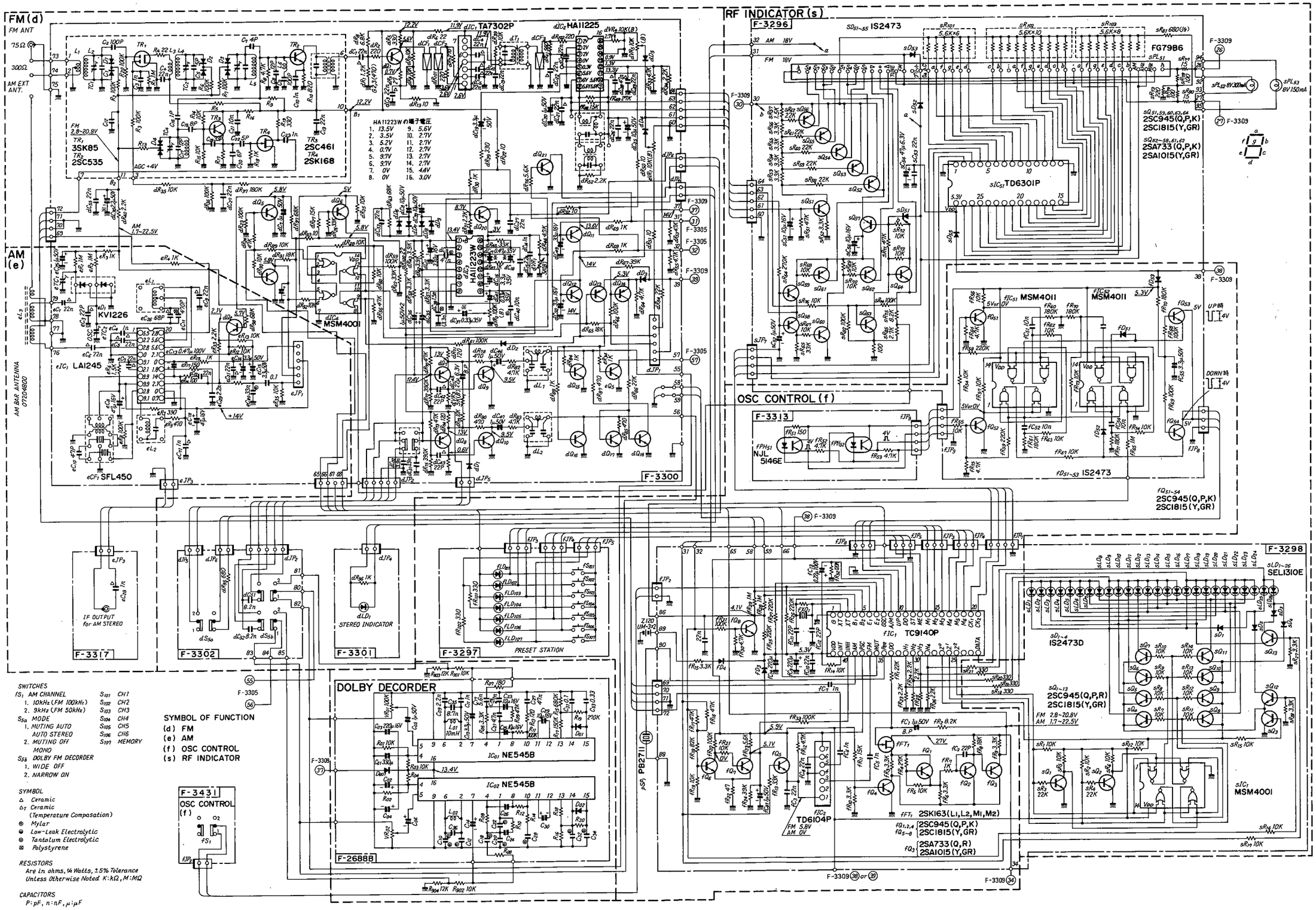
* Design and specifications subject to change without notice for improvement.
* 改良のため，予告なく変匠，仕様の一部を変更することがあります．



## 3-3. 8900ZDB Tuner Section

* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
* Design and specifications subject to change without notice for improvement.
* 改良のため，予告なく意匠，仕様の一部を変更することがあります．



# 900ZDB Audio Section

* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
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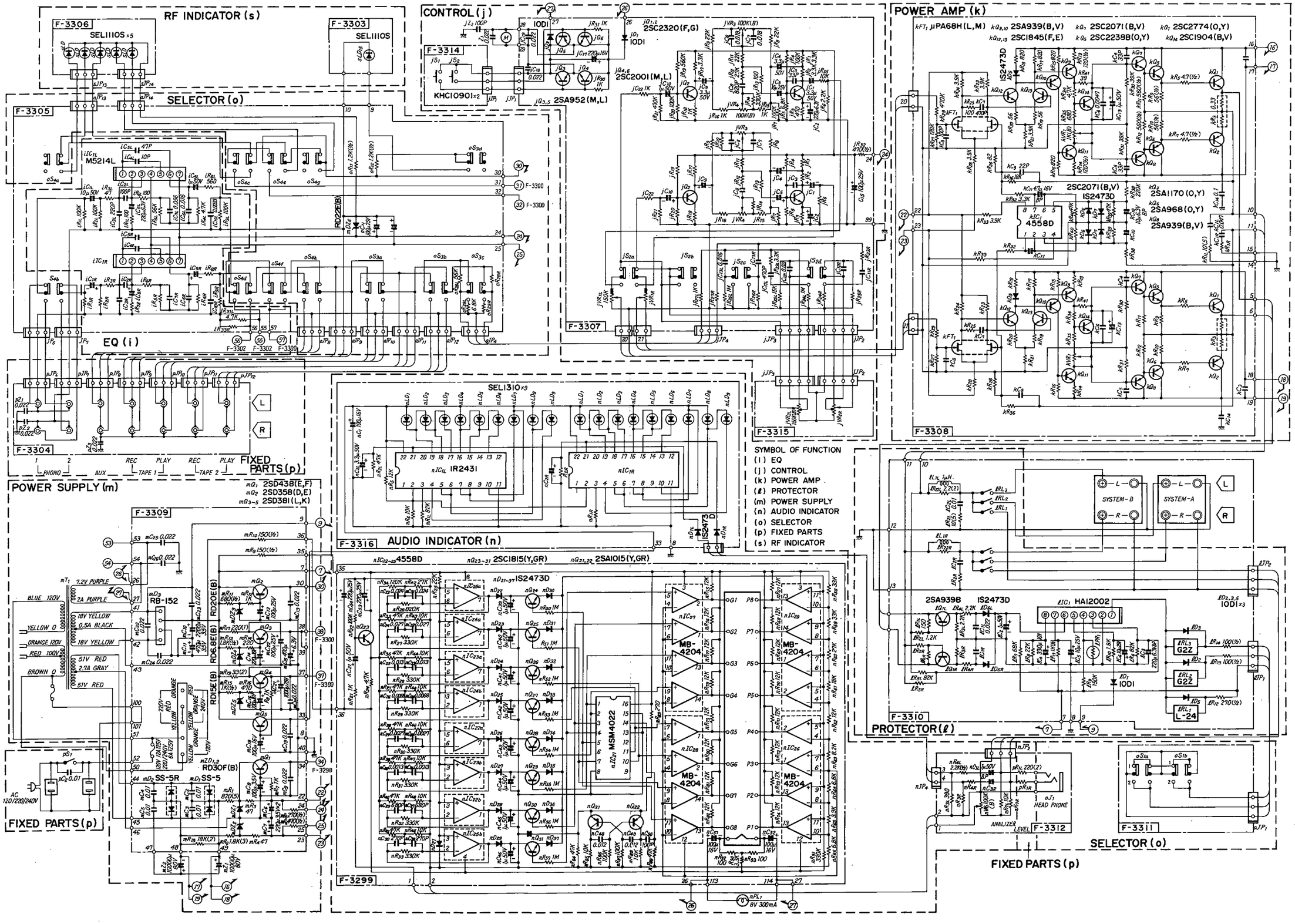
* Design and specifications subject to change without notice for improvement.
* 改良のため，予告なく変更，仕様の一部を変更することがあります。



# 7900Z Tuner Section

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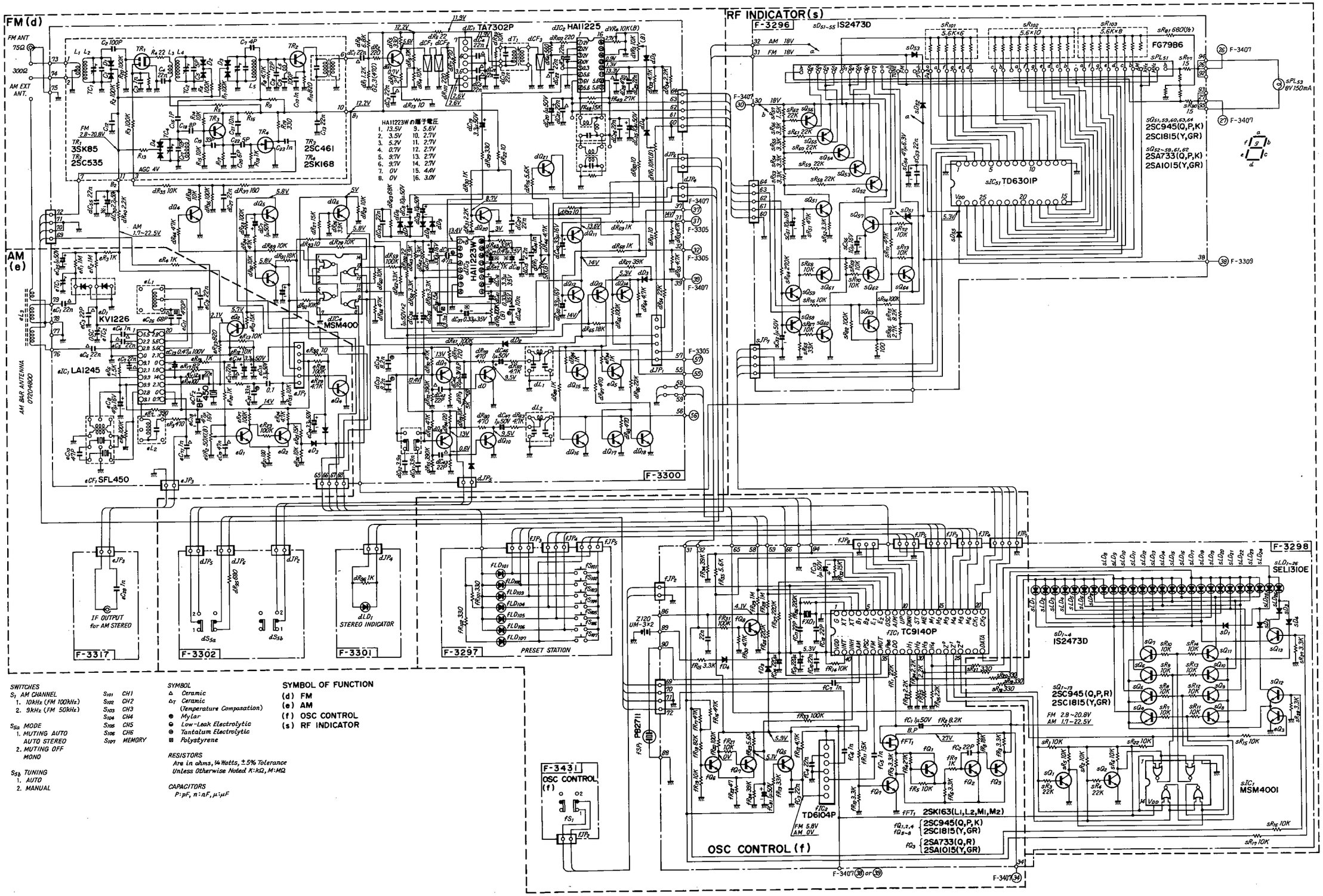
* Design and specifications subject to change without notice for improvement.
* 改良のため、予告なく変更、仕様の一部を変更することがあります。




SWITCHES
- $S_1$ AM CHANNEL
  1. 10kHz (FM 100kHz)
  2. 9kHz (FM 50kHz)
- $S_{2a}$ MODE
  1. MUTING AUTO / AUTO STEREO
  2. MUTING OFF / MONO
- $S_{2b}$ TUNING
  1. AUTO
  2. MANUAL

$S_{101}$ CH1
$S_{102}$ CH2
$S_{103}$ CH3
$S_{104}$ CH4
$S_{105}$ CH5
$S_{106}$ CH6
$S_{107}$ MEMORY

SYMBOL
- △ Ceramic
- △T Ceramic (Temperature Compasation)
- ● Mylar
- ⊖ Low-Leak Electrolytic
- ⊗ Tantalum Electrolytic
- ▣ Polystyrene

RESISTORS
Are in ohms, 1/4 Watts, ±5% Tolerance
Unless Otherwise Noted K:kΩ, M:MΩ

CAPACITORS
P:pF, n:nF, μ:μF

SYMBOL OF FUNCTION
(d) FM
(e) AM
(f) OSC CONTROL
(s) RF INDICATOR

## 3-6. 7900Z Audio Section

* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
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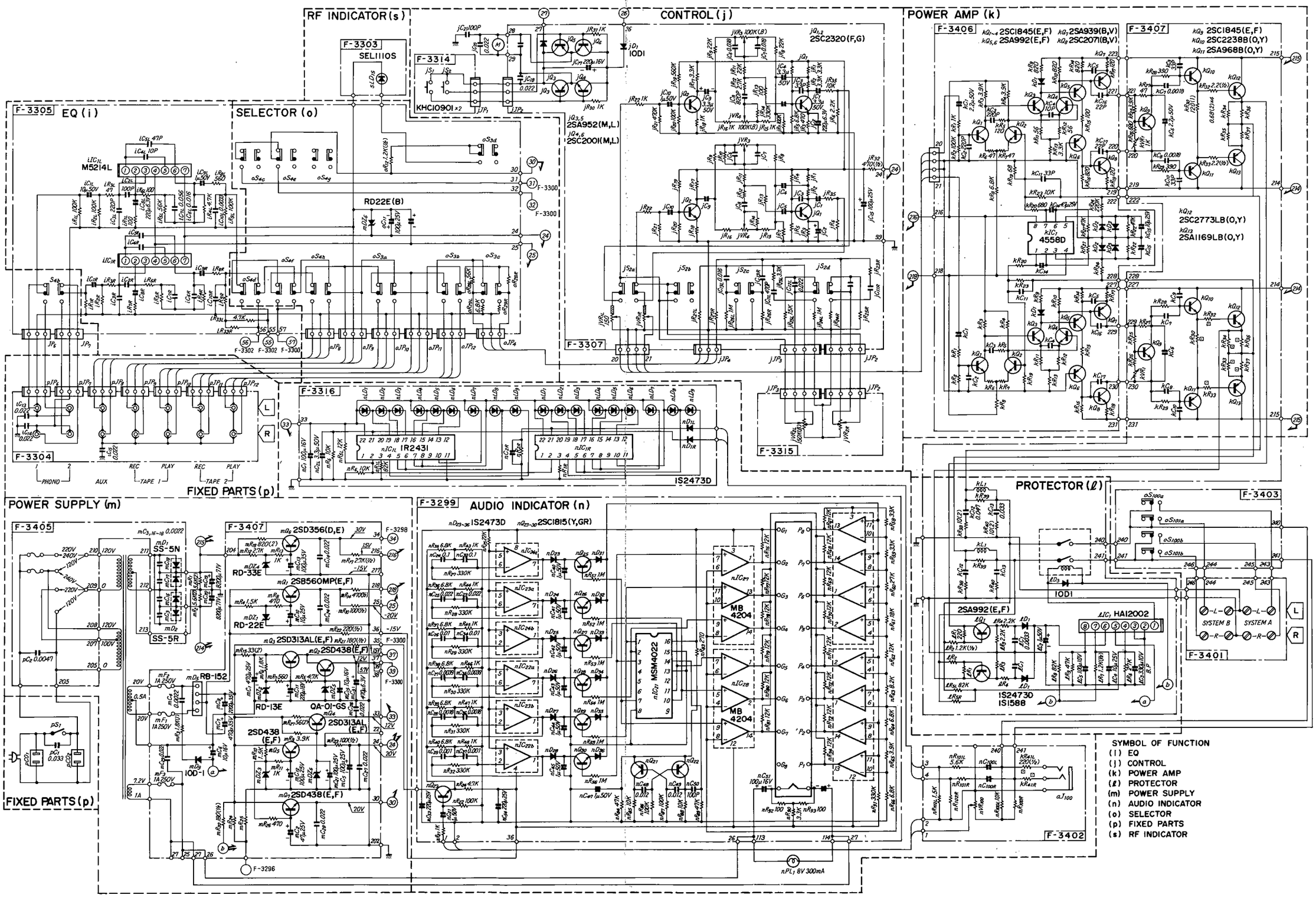
* Design and specifications subject to change without notice for improvement.
* 改良のため，予告なく意匠，仕様の一部を変更することがあります。

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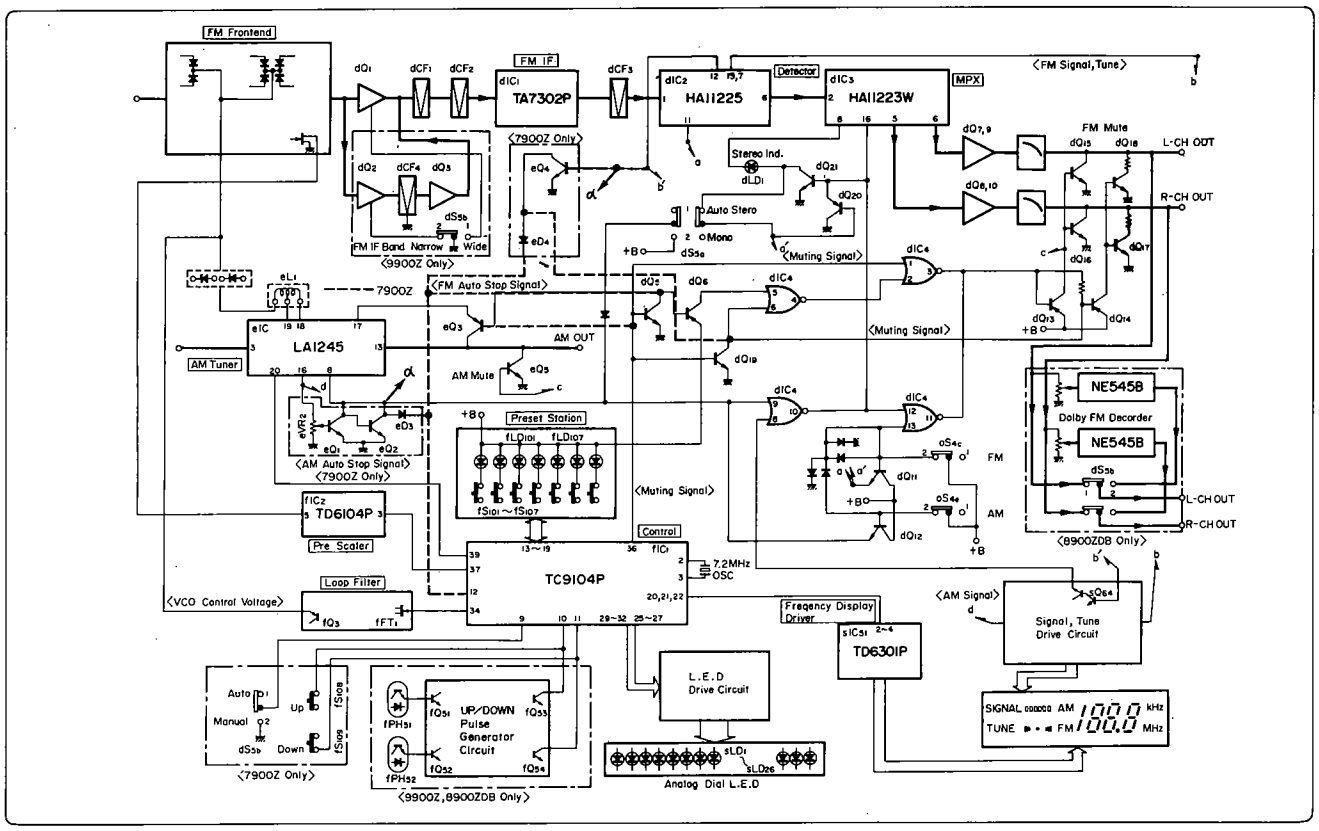
## 1-2. Tuner Section




# 2. OPERATIONS

A static-mode digital tuning system has been used for the tuner sections of Model 9900Z, 8900ZDB, and 7900Z. The system comprises a Pre-scaler IC/TD6104P, PLL synthesizer control IC/TC9140P and a digital display driver IC/TD6301P.

## 2-1. Main Function

### A. Function of Tuning Selection

1) In 9900Z and 8900ZDB, a rotary encoder is adopted to realize a novel manual tuning system, in which the conventional analog tuning system and digital tuning system are used together.
2) In 7900Z, one-step/one-push, manual tuning, fast forward manual tuning, and automatic search tuning can be made by depressing the AUTO/MANUAL selection switch and the UP/DOWN key which are joined with each other.
3) The memory can write-in or read-out six FM broadcasting stations and six AM broadcasting station, respectively, by pushing the MEMORY key (fS101) and the PRESET keys (fS102-fS107).

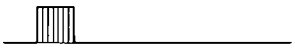
### B. Display of Received Frequency

The received frequency can be displayed in two methods, simultaneously: analog dial display by LEDs and digital display by IC/TD6301P.

### C. Others

Upon the operations of the PRESET keys, FM/AM band selection, and scanning, an approx. 2.5 kHz pulse signal (as shown in Fig. 2-1) is outputted for a fixed period from the terminal "Pee" of TC9140P, so as to produce an operation-confirming pitch sound from the buzzer (fSP1).

Fig. 2-1



FM/AM band Selection, Memory read-out, Manual UP/DOWN

Manual fast forward, Automatic scanning

## 2-2. Operation of Manual Tuning in 9900Z and 8900ZDB

In 9900Z and 8900ZDB, the manual tuning is performed by the use of a rotary encoder including two photo-couplers, without depressing the UP/ DOWN key.

The photo-couplers and a reflector mounted on the tuning knob detect whether the tuning knob is being rotated clockwise to increase (UP) the frequency or counterclockwise to decrease (DOWN) the frequency to be received.

The two photo-couplers fPH51 and fPH52 detect the respective positions with a phase difference of 90 degrees. Fig. 2-2 (a) shows a mutual relationship between two output pulses of fPH51 and fPH52, when the tuning knob is being clockwise; (b) shows a mutual relationship between two output pulses of fPH51 and fPH52, when the tuning knob is being rotated counterclockwise. The two output pulses are converted into an UP or DOWN pulse signal, respectively, through a pulse generator circuit as shown in Fig. 2-3, and next fed to the terminal UP or DOWN of TC9140P in order to increase (UP) or decrease (DOWN) the frequency to be received.

### A. UP-Pulse Generation in FM Mode (Clockwise Rotation of Tuning Knob) (See Figs. 2-2 (a), 2-3, and 2-4.)

When the tuning knob is rotated clockwise, the photo-couplers fPH51 and fPH52 output the pulses as shown by Fig. 2-2 (a). The output pulses Ⓐ and Ⓑ from fPH51 and fPH52 are inverted through fQ51 and fQ52, respectively.

The inverted output pulses Ⓒ and Ⓓ are waveform-shaped through IC1a and IC1b (inverters) and then outputted from the output gate of Pin No. 10 of IC1a and the output gate of Pin No. 4 of IC1b respectively, as two inverted output pulses Ⓔ and Ⓕ.

The inverted output pulse Ⓔ from IC1a and the differentiated pulse Ⓗ of the inverted output pulse Ⓕ from IC1b are inputted to IC1d, and a pulse Ⓙ is outputted from the output gate of Pin No. 11 of IC1d.

The inverted output pulse Ⓕ from IC1b and the differentiated pulse Ⓖ of the inverted output pulse Ⓔ from IC1a are inputted to IC1c; however in this case, no pulse is outputted from the output gate of Pin No. 3 of IC1c but a constant H-level (in voltage) output signal I is kept outputted.

Next, in FM mode, since a constant H-level voltage is applied to the input gate of Pin No. 9 of IC2a and the input gate of Pin No. 6 of IC2b, the inverted output pulse Ⓚ of the pulse Ⓔ is outputted from the output gate of Pin No. 10 of IC2a, and the inverted output pulse Ⓛ of the pulse Ⓕ is outputted from the output gate of Pin No. 4 of IC2b.

The inverted output pulse Ⓚ from IC2a and the differentiated pulse Ⓝ of the inverted output pulse Ⓛ from IC26 are inputted to IC2d, and a pulse Ⓟ is outputted from the output gate of Pin No. 11 of IC2d.

This pulse Ⓟ from IC2d and the output pulse Ⓙ from IC1d are combined into an UP pulse Ⓠ.

The UP pulse Ⓠ is next current-amplified through fQ53 and inputted to the terminal UP of TC9140P (fIC1) to increase (UP) the frequency to be received.

Further, the inverted output pulse Ⓛ from IC2b and the differentiated pulse Ⓜ of the inverted output pulse Ⓚ from IC2a are inputted to IC2c; however, in this case no pulse is outputted from the output gate of Pin No. 3 of IC2c but a constant H-level output signal Ⓞ is kept outputted.

### B. DOWN-Pulse Generation in FM Mode (Counterclockwise Rotation of Tuning Knob) (See Figs. 2-2 (b), 2-3, and 2-4.)

When the tuning knob is rotated counterclockwise, the photo-couplers fPH51 and fPH52 output the pulses as shown by Fig. 2-2 (b). In this case, the output pulse from fPH52 leads the output pulse from fPH51 by a phase angle of 90 degrees.

Therefore, there is a difference of 180 degrees in phase between the output pulse from fPH52 when the tuning knob is rotated counterclockwise and the one when rotated clockwise against that of the output pulse from fPH51. As a result, the inverted output pulses Ⓔ and Ⓕ are outputted from IC1a and IC2b respectively. The inverted output pulse Ⓕ from IC1b and the differentiated pulse Ⓖ of the inverted output pulse Ⓔ from IC1a are inputted to IC1c, and a pulse Ⓘ is outputted from the output gate of Pin No. 3 of IC1c.

The inverted output pulse Ⓔ from IC1a and the differentiated pulse Ⓗ of the inverted output pulse Ⓕ from IC1b are inputted to IC1d, however, in this case, no pulse is outputted from the output gate of Pin No. 11 of IC1d but a constant H-level output signal Ⓙ is kept outputted.

Next, the inverted output pulses Ⓚ and Ⓛ of both pulses, Ⓔ and Ⓕ are outputted from the output gates of Pin Nos. 10 and 4 of IC2a and IC2b, respectively.

The inverted output pulse Ⓛ from IC2b and the differentiated pulse Ⓜ of the inverted output pulse Ⓚ from IC2a are inputted to IC2c, and a pulse Ⓞ is outputted from the output gate of Pin No. 3 of IC2c.

This pulse Ⓞ from IC2c and the output pulse Ⓘ from IC1c are combined into a DOWN pulse Ⓡ. The DOWN pulse Ⓡ is next current-amplified through fQ54 and inputted to the terminal DOWN of TC9140P (fIC1) to decrease (DOWN) the frequency to be received.

Further, no pulse is outputted from the output gate of Pin No. 11 of IC2d but a constant H-level output signal Ⓟ is kept outputted.

### C. UP- and DOWN-Pulse Generation in AM Mode

In AM mode, since the input gates of Pin Nos. 9 and 6 of IC2a and IC2b are in a constant L-level signal in voltage, the output gates of Pin Nos. 10 and 4 of IC2a and IC2b are also in a constant H-level state in voltage, respectively, regardless of the input conditions of the input gates of Pin Nos. 8 and 5 of IC1b and IC2b.

Therefore, a constant H-level signal is inputted to the input gates of Pin Nos. 2 and 12 of IC2c and IC2d, respectively; however, since a capacitor C is connected to the other input gates of Pin Nos. 1 and 13 of IC2c and IC2d respectively, the H-level signal is not inputted but a L-level signal is inputted to the input gates of Pin Nos. 1 and 13.

Accordingly, the output gates of Pin Nos. 3 and 11 of IC2c and IC2d are in a H-level signal in voltage without outputting the UP and DOWN pulsesl.

In other words, when the tuning knob is rotated clockwise in AM mode, the UP pulse is the output pulse Ⓙ from IC1d, and when the tuning knob is rotated counterclockwise, the DOWN pulse is the output pulse Ⓘ from IC1c.

That is to say, the number of the UP or DOWN pulses in AM mode is half of that in FM mode. This UP pulse Ⓙ or DOWN pulse Ⓘ is inputted to the terminal UP or DOWN of TC9140P (fIC1) to increase (UP) or decrease (DOWN) the frequency to be received.

When the UP or DOWN pulse is inputted to the terminal UP or DOWN of TC9140P, the frequency to be received changes by 100 kHz (50 kHz in Europe) per pulse in receiving FM frequency or by 10 kHz (9 kHz in Europe) per pulse in receiving AM frequency. In addition, the pulse width of the UP or DOWN pulse can be determined by a time constant of the capacitor C and the resistor R provided in the respective differentiator circuits.

## 2-3. Muting Operation

In selecting AM/FM band, when depressing the manual UP/DOWN key (the tuning knob in 9900Z and 8900ZDB), or when performing the automatic search operation, the mute signal from the mute output terminal of Pin No. 36 of the PLL synthesizer control IC/TC9140P (fIC1) changes to H-level in voltage to begin the muting operation.

This mute signal controls the tuner output in FM/AM mode by turning dQ16 ~ dQ18 ON or OFF in FM mode and eQ5 in AM mode.

In FM stereo mode, the mute signal from Pin No. 12 of the decorder IC/HA11225 (dIC2) is used for the muting operation, in addition to the mute signal from fIC1. However, only the mute signal from fIC1 is used for the muting operation in monophonic FM broadcasting and AM modes.

**Fig. 2-2 fPHS1/fPHS2 Output Pulse**

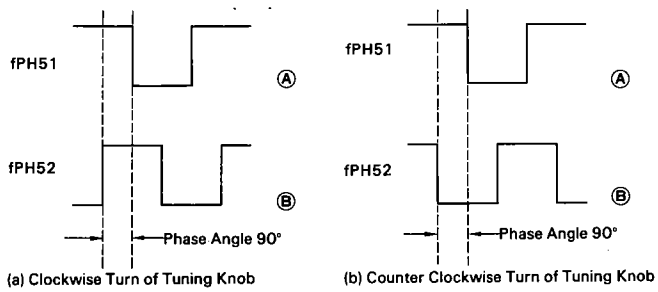


Fig. 2-3 UP/DOWN Pulse Generator Circuit

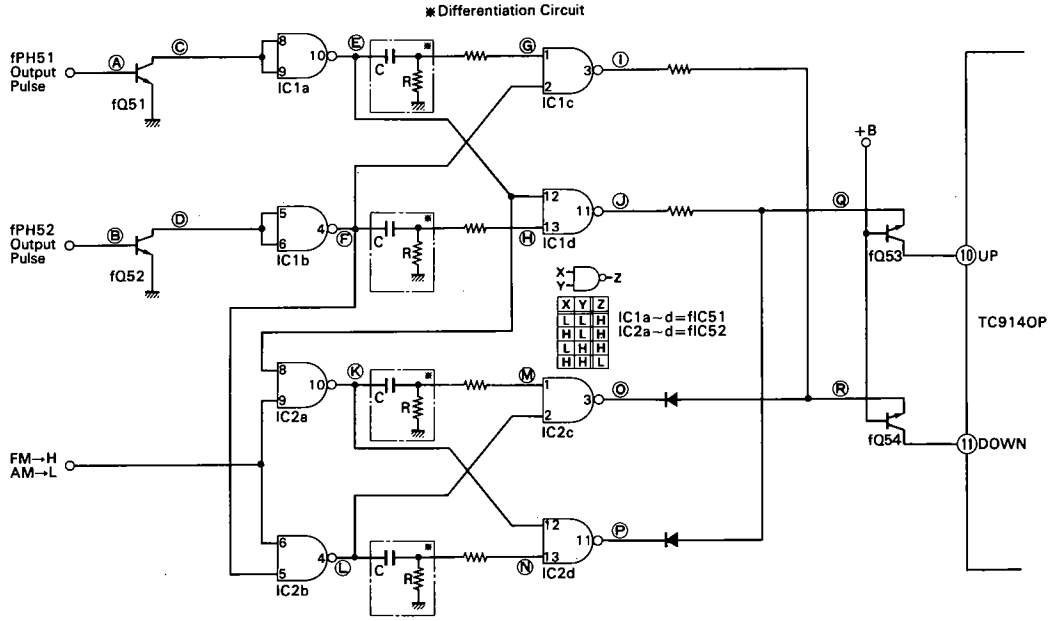
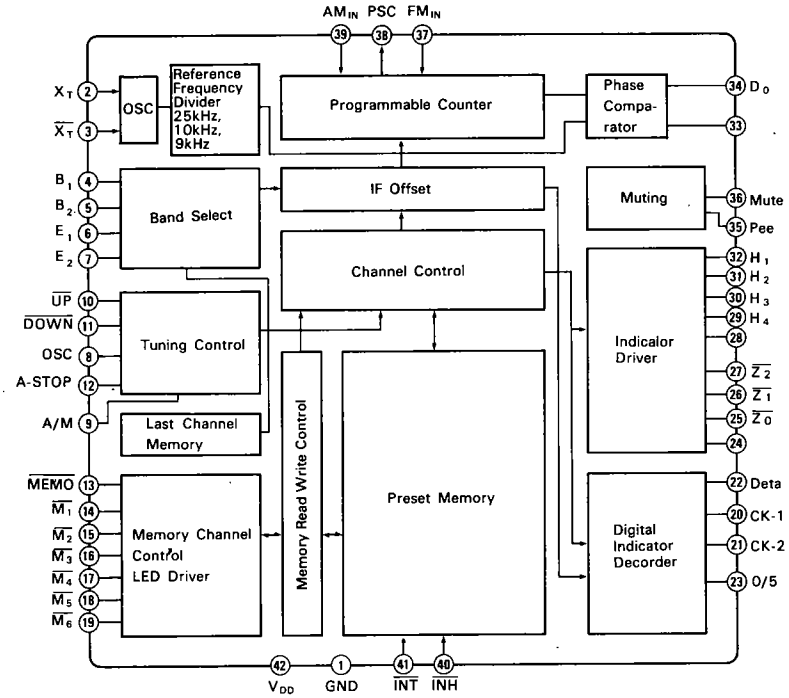



Fig. 2-4 Timing Chart of UP/DOWN Pulse Generation

| MEASURING POINT | A)CLOCKWISE TURN OF TUNING KNOB (UP Pulse Generation) | B)COUNTERCLOCKWISE TURN OF TUNING KNOB (DOWN Pulse Generation) | REMARKS |
|---|---|---|---|
| Ⓔ | | | |
| Ⓕ | | | |
| Ⓚ | | | FM Mode Only |
| Ⓛ | | | FM Mode Only |
| Ⓖ | | | |
| Ⓗ | | | |
| Ⓜ | | | FM Mode Only |
| Ⓝ | | | FM Mode Only |
| Ⓞ | | | |
| Ⓟ | | | |
| Ⓘ | | | Output Signal for DOWN Tuning on AM Mode |
| Ⓙ | | | Output Signal for UP Tuning on AM Mode |
| Ⓠ | | | Output Signal for UP Tuning on FM Mode |
| Ⓡ | | | Output Signal for DOWN Tuning on FM Mode |

# 3. INTERIOR BLOCK DIAGRAM OF IC

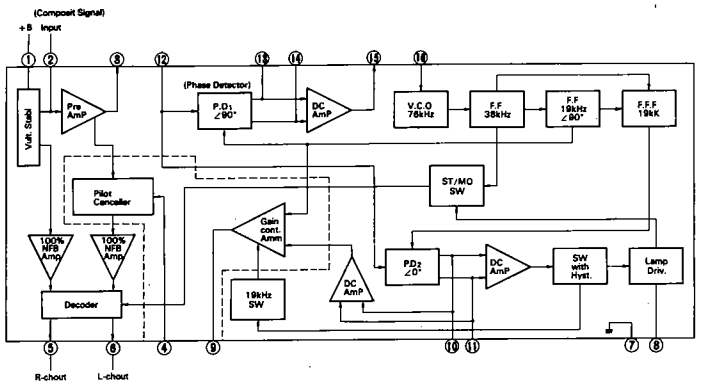
## • TC9140P (PLL Synthesizer Control IC)



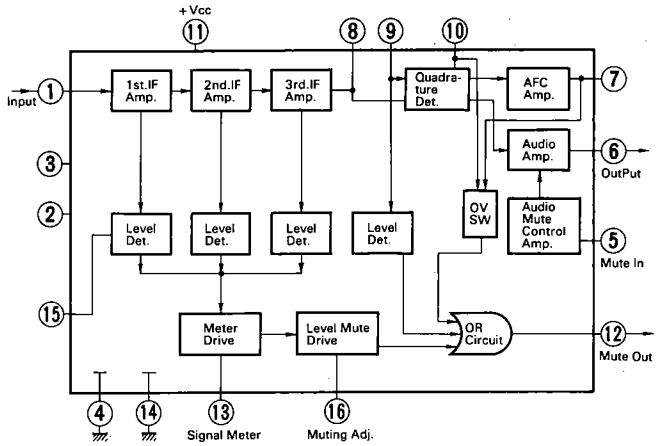

## • Terminal Functions of TC9140P

| Pin No. | Symbols on substrate | Functions |
|---|---|---|
| 2, 3 | $X_T$ $\overline{X_T}$ | Terminals to connect a quartz oscillator for generating a reference frequency. |
| 4, 5 | $B_1$ $B_2$ | Terminals to input a signal for switching FM/AM band and a signal for selecting the IF fine tuning in FM receiving.<br>$B_1$ $B_2$<br>0 0 AM<br>1 0 FM (10.7MHz − 50K)<br>0 1 FM (10.7MHz + 50K)<br>1 1 FM (10.7MHz) |
| 6, 7 | $E_1$ $E_2$ | Terminals to input a signal for selecting destinations of Japan, USA, and Europe.<br>$E_1$ $E_2$ Mode<br>0 0 —<br>1 0 Japan<br>0 1 USA<br>1 1 Europe<br>* Inputs of terminals $E_1$ and $E_2$ are read and latched in $\overline{INH}$ = L state and in FM/AM switching. |
| 8 | OSC | Terminal to connect capacitor and resistor for the oscillator for determinating the speed of automatic search operation. The automatic store-release in the preset memory unit and the conversion period to fast forwarding in manual selection of broadcasting stations are determined according to this oscillation frequency. |
| 9 | A/M | Terminal to input a signal for switching the manual operation to automatic search operation or vice versa in the UP/DOWN tuning mode.<br>"H" : Automatic, "L" : Manual |
| 10<br>11 | $\overline{UP}$<br>$\overline{DOWN}$ | Terminals to input a signal from the tuning key.<br>* In manual operation: When the key is kept depressed for 0.3 sec or more in one-step/one-push step feeding, the operation changes to fast forwarding; when the key is released, the operation stops at the next stop. In this case, even if there is a station on the way, the station is neglected.<br>* In automatic search operation (7900Z): When the key is depressed once, the automatic search operation starts and stops automatically after having selected the desired station.<br>* A pull-up resistance is provided therein. |
| 12 | A-STOP | Terminal to input a signal for performing the automatic search stop.<br>When a "H" level signal is applied to this terminal during automatic search operation, the scanning operation stops. (7900Z Only) |
| 13 | $\overline{MEMO}$ | Terminal to input a signal for storing data in the preset memory unit. Input/output terminal in which a LED driver is provided.<br>* When depressing the MEMO key, the MEMO lamp comes on. Next, when any desired memory No. key is depressed, the data on receiving frequency is written into the memory unit and the MEMO lamp goes off.<br>* When the MEMO key is depressed and the memory No. key is not depressed, the frequency data is released automatically. |
| 14 ~ 19 | $\overline{M_1}$ ~ $\overline{M_6}$ | Terminals to input a signal for designating memory addresses.<br>Input/output terminals in which a LED driver is provided.<br>* Terminals $M_1$ to $M_6$ designate the addresses of FM memory unit in FM receiving and the addresses of AM memory unit in AM receiving.<br>* When depressing the MEMO key and any desired station key of $M_1$ to $M_6$, the data is written into the memory unit.<br>* When depressing any desired station key of $M_1$ to $M_6$, the data is read out. |
| 20<br>21<br>22<br>23 | CK-1,<br>CK-2,<br>Data,<br>0/5 | Terminals to output the data for displaying the received frequency digitally and a timing signal.<br>The data fed to the driver TD6301P for displaying a static frequency and the timing signal are outputted once only when the frequency is updated in such case as when the power supply is tuned on, the UP/DOWN key is depressed, the automatic scanning operation is made, the data are read out of the memory unit, or FM/AM is switched. In the ordinary receiving state, this terminal is fixed to a "L" level.<br>* Data: Binary coded frequency data and receiving band.<br>* CK-1, CK-2: Initialize and transfer clock signals.<br>* 0/5: For displaying 50 kHz during FM receiving in Europe. |
| 25 ~ 27 | $\overline{Z_0}$ ~ $\overline{Z_2}$ | Terminal to output a signal for driving the LEDs for displaying the linear scale on a received frequency. The LEDs are driven in push-pull connection with the terminals $H_1$ to $H_5$.<br>18 points at its maximum. |
| 29 ~ 32 | $H_4$ ~ $H_1$ | Terminals to output a signal for driving the LEDs for displaying the linear scale on a received frequency.<br>The LEDs are driven in push-pull connection with the terminals $Z_0$ to $Z_2$. |
| 34 | $D_0$ | Terminal to output a signal from a phase comparator. This terminal can be used for FM and AM, separately. |
| 35 | Pee | Terminal to output a signal for generating a sound "Pee" to confirm that the key is depressed correctly. |
| 36 | Mute | Terminal to output the muting signal. The terminal is kept in "L" level in ordinary state, and in "H" level in muting. |
| 37 | $FM_{IN}$ | Terminal to input a signal from the FM programmable counter.<br>An amplifier is provided in the input. |
| 38 | PSC | Terminal to output a signal for controlling the Prescaler IC of TD6104P. |
| 39 | $AM_{IN}$ | Terminal to input a signal from the AM programmable counter.<br>An amplifier is provided in the input. |
| 40 | $\overline{INH}$ | Terminal to input a signal of inhibit. Ordinary operation in "H" level; inhibit operation in "L" level. |
| 41 | $\overline{INT}$ | Terminal to input an initialize signal. This terminal changes to H level in the ordinary operation and to L level in the initialize operation. |
| 1, 42 | GND, $V_{DD}$ | Power supply terminals. 5V ±0.5V |

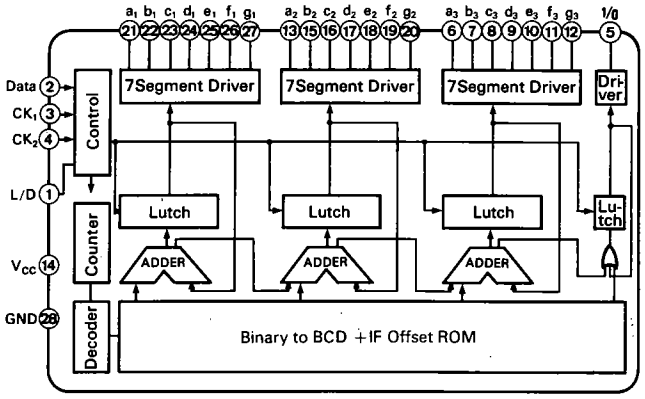
## • HA11223W (MPX IC)



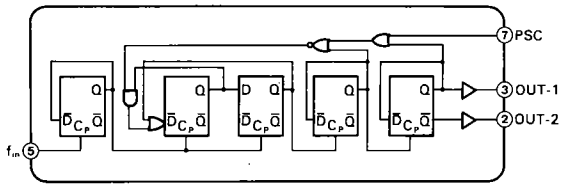

## • HA11225 (Quadrature Detector IC)



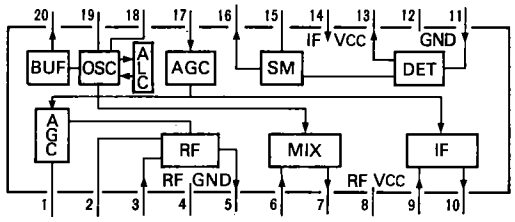

## • TD6301P (7 Segment Decorder IC)



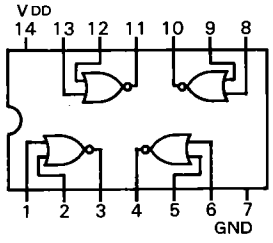

## • TD6104P (Pre Scaler IC)



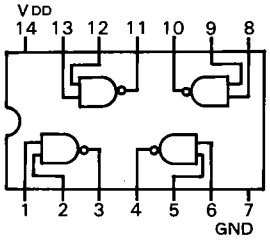

## • LA1245 (AM Tuner IC)



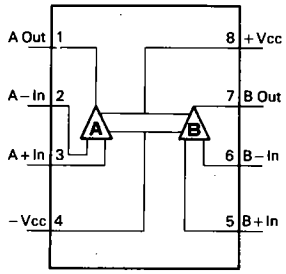

## • MSM4001RS/TC4001BP (NOR1 ~ 4)



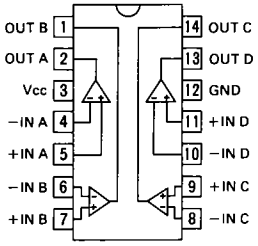

## • MSM4011RS/TC4011P (NAND1 ~ 4)



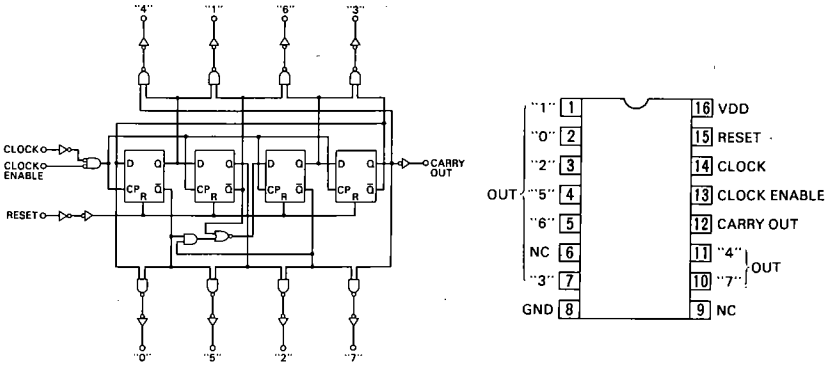

## • NJM4558D (Operation Amp. IC)



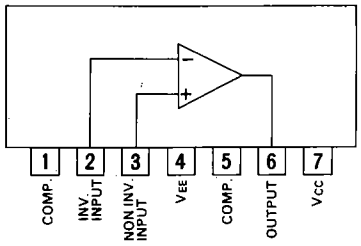

## • MB4204M (Comparator IC)




## • MSM4022RS (Divide-by-8 Counter/Driver IC)



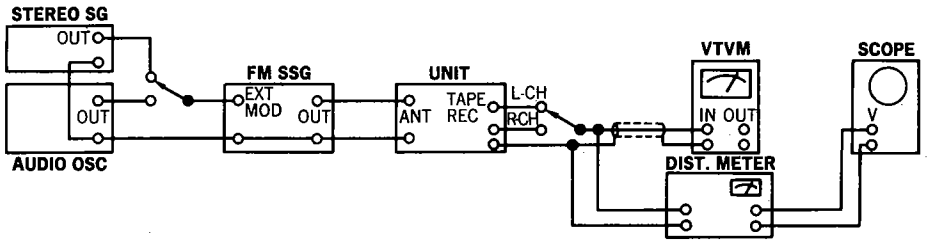

## • M5214L (Audio Amp. IC)



# 4. ADJUSTMENTS (See Top View on Page 18, 19 & 20)

## 1. FM Adjustment (See Fig. 4-1 & Fig. 4-2)

Note. 1. SELECTOR . . . . . FM
2. FM MODE/FM MUTING Switch . . . . Off
3. FM IF BAND Switch . . . . . Wide (9900Z Only)




### (1) FM IF, RF Adjustment

| STEP | SUBJECT | FEED SIGNAL FROM | FEED SIGNAL TO | MEASURE OUTPUT | ADJUST | ADJUST FOR | REMARKS |
|---|---|---|---|---|---|---|---|
| 1. | IF Coil Adj. | 98 MHz ANT Input<br>25 dBf (19.8 dB)<br>1 kHz (100% MOD)<br>FM SSG | ANT Terminal<br>300Ω | SIGNAL Indicator | dVR5 (F-3300) | Make 3 lamps lighting | |
| | | | | Lead Wire of sR52 (F-3296) | dT1 (F-3300) | Max. Reading | |
| 2. | Discriminator Coil Adj. | 98 MHz ANT Input<br>65 dBf (59.8 dB)<br>1 kHz (100% MOD)<br>FM SSG | Same as above | REC OUT L-ch or R-ch Dist Meter | dT2, dT3 (F-3300) | Min. THD | |
| 3. | SIGNAL Indicator Adj. | 98 MHz ANT Input<br>20 dBf (14.8 dB)<br>1 kHz (100% MOD)<br>FM SSG | Same as above | SIGNAL Indicator | dVR5 (F-3300) | Make 3 lamps lighting | SIGNAL□□□ |
| | | 98 MHz ANT Input<br>65 dBf (59.8 dB)<br>FM SSG | Same as above | Same as above | dVR5 | Make every 8 lamps lighting | SIGNAL□□□□□□□□ |

### (2) FM STEREO Adjustment (See Fig. 4-1 & Fig. 4-3)

Note: 1. SELECTOR . . . . . FM
2. FM MODE/FM MUTING Switch . . . . On

| STEP | SUBJECT | FEED SIGNAL FROM | FEED SIGNAL TO | MEASURE OUTPUT | ADJUST | ADJUST FOR | REMARKS |
|---|---|---|---|---|---|---|---|
| 1. | PLL VCO Adj. | 98 MHz ANT Input<br>65 dBf (59.8 dB)<br>FM SSG<br>Pilot 19 kHz (9% MOD)<br>R (or L) Mode<br>1 kHz + Pilot (100% MOD) STEREO SG | ANT Terminal<br>300Ω | FM STEREO Indicator | dVR1 (F-3300) | Light indicator | Adjust the VR within center of lighting level |
| | PLL VCO Adj.<br>In case of Freq. Counter | 98 MHz ANT Input<br>65 dBf (59.8 dB)<br>FM SSG (No MOD) | Same as above | Lead Wire of dR46 (F-3300) Freq. Counter | dVR1 (F-3300) | 76 kHz ±60 Hz | |
| 2. | PILOT Cancel Adj. | 98 MHz ANT Input<br>65 dBf (59.8 dB)<br>FM SSG<br>Pilot 19 kHz (9% MOD) | Same as above | Lead Wire of dR82 (L-CH) (F-3300)<br>dR83 (R-CH) (F-3300)<br>DC Volt Meter | dVR2 (F-3300) | Min. Reading | Confirm Both Channel |
| | PILOT Cancel Adj.<br>In case of Dist Meter | 98 MHz ANT Input<br>65 dBf (59.8 dB)<br>FM SSG<br>Pilot 19 kHz (9% MOD)<br>L-ch or R-ch Mode<br>1 kHz + Pilot (100% MOD) | Same as above | Same as above<br>Dist Meter | dVR2 (F-3300) | Min. THD | |

| STEP | SUBJECT | FEED SIGNAL FROM | FEED SIGNAL TO | MEASURE OUTPUT | ADJUST | ADJUST FOR | REMARKS |
|---|---|---|---|---|---|---|---|
| 3. | Distortion Adj. In case ofSG STEREO | 98 MHz ANT Input 65 dBf (59.8 dB) FM SSG Pilot 19 kHz (9% MOD) L Mode 1 kHz + Pilot (100% MOD) | Same as above | REC OUT L-ch | dT1 (F-3300) | Min. THD | |
| 4. | Separation Adj. | 98 MHz ANT Input 65 dBf (59.8 dB) FM SSG Pilot 19 kHz (9% MOD) L Mode Sub 1 kHz Pilot (100% MOD) STEREO SG | Same as above | REC OUT L-ch Connect VTVM & Scope | | Max. Output | Read the output level of REC OUT |
| | | | | REC OUT R-ch Connect VTVM & Scope | dVR3 (F-3300) | Min. Output (Confirm output level should be less than −40 dB of L-ch output level) | Confirm R-ch → L-ch |
| 5. | Muting level Adj. | 98 MHz ANT Input 15 dBf (9.8 dB) FM SSG Pilot 19 kHz (9% MOD) Sub 1 kHz + Pilot (100% MOD) STEREO SG | Same as above | STEREO Indicator | dVR4 (F-3300) | STEREO Indicator turns on or Output signal comes out | |
| 6. | DOLBY FM Adj. (8900ZDB Only) | 98 MHz ANT Input 65 dBf (59.8 dB) 100 Hz (100% MOD) FM SSG | Same as above | REC OUT L-ch VTVM | VR01 (F-2688) | Output level 560 mV | DOLBY FM DECODER Switch --- ON VTVM (100kΩ/V) |
| | | | | REC OUT R-ch VTVM | VR02 (F-2688) | Same as above | |

Fig. 4-1

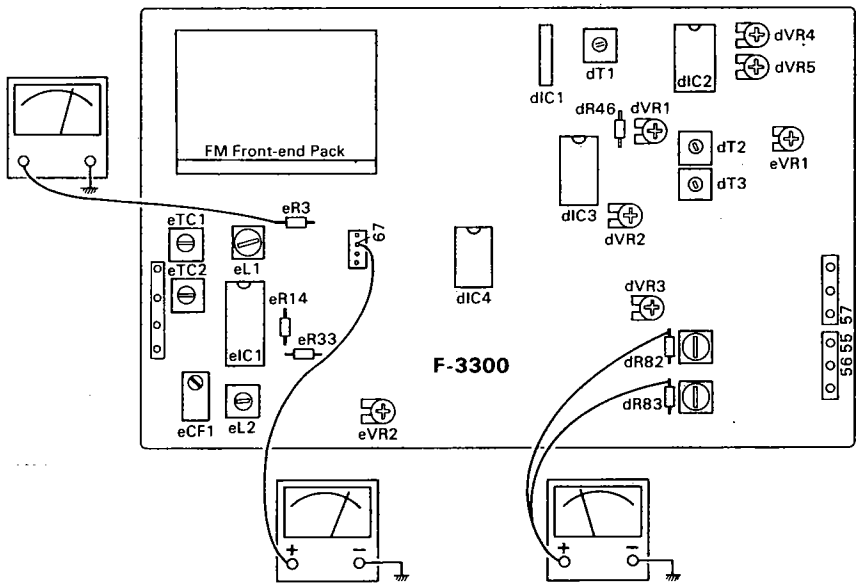



Fig. 4-2

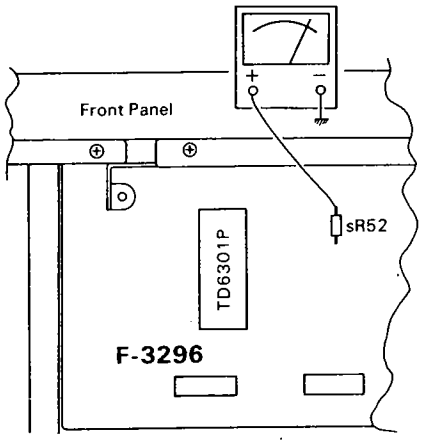
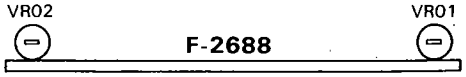
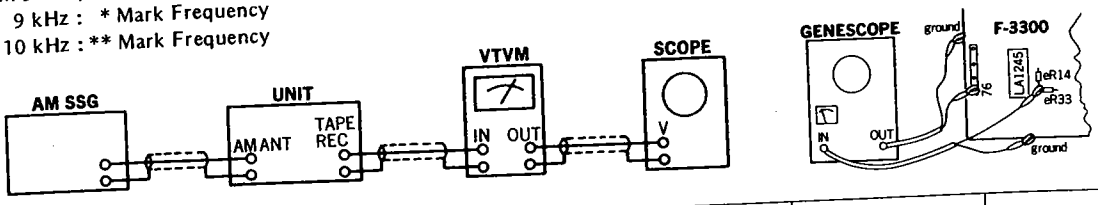


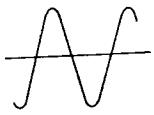
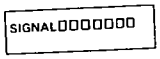
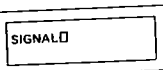

Fig. 4-3



## 2. AM IF Adjustment & Dial Calibration (See Fig. 4-1 on Page 8)

Note: 1. SELECTOR . . . . . AM
2. AM 9 kHz/10 kHz Selection Switch (Rear Panel)
9 kHz : * Mark Frequency
10 kHz : ** Mark Frequency




| STEP | SUBJECT | FEED SIGNAL FROM | FEED SIGNAL TO | MEASURE OUTPUT | ADJUST | ADJUST FOR | REMARKS |
|---|---|---|---|---|---|---|---|
| 1. | IF Coil Adj. | Output 60 dB Genescope | Terminal No. 76 (F-3300) | Lead Wire of eR33 (F-3300) | eCF1<br>eL2<br>(F-3300) | Max. IF Waveform | |
| 2. | AFC Voltage Adj.<br>*522 kHz<br>(**520 kHz) | No Input | — | Display Indication | Tuning Knob | *522 kHz<br>(**520 kHz) | |
| | | Same as above | — | Lead Wire of eR3 (F-3300)<br>DC Volt Meter | eL1<br>(F-3300) | 1.7V ±1V | |
| | AFC Voltage Adj.<br>*1602 kHz<br>(**1600 kHz) | Same as above | — | Display Indication | Tuning Knob | *1602 kHz<br>(**1600 kHz) | |
| | | Same as above | — | Lead Wire of eR3 (F-3300)<br>DC Volt Meter | eTC2<br>(F-3300) | 22.5V ±2V | |
| 3. | *603 kHz<br>(**600 kHz)<br>RF Adj. | *603 kHz (**600 kHz)<br>ANT Input 50 dB<br>400 Hz (30% MOD)<br>AM SSG | ANT Terminal | REC OUT<br>L-ch or R-ch<br>VTVM & Scope | Bar Antenna | Max. Output |  |
| | *1404 kHz<br>(**1400 kHz)<br>RF Adj. | *1404 kHz (**1400 kHz)<br>ANT Input 50 dB<br>400 Hz (30% MOD)<br>AM SSG | Same as above | Same as above | eTC1<br>(F-3300) | Max. Output | |
| 4. | SIGNAL Indicator Adj. | *999 kHz (**1000 kHz)<br>ANT Input 70 dB<br>400 Hz (30% MOD)<br>AM SSG | Same as above | SIGNAL Indicator | eVR1<br>(F-3300) | Make 7 lamps lighting |  |
| | | No Input | — | Same as above | eVR1<br>(F-3300) | Make only 1 lamp lighting |  |
| 5. | Auto Search Level Adj.<br>(7900Z Only) | *999 kHz (**1000 kHz)<br>ANT Input 70 dB<br>400 Hz (30% MOD)<br>AM SSG | ANT Terminal | Terminal No. 67 (F-3300)<br>DC Volt Meter | eVR2<br>(F-3300) | DC 3.6 ~ 4V | Voltage change from L to H level |

**• Abbreviations**

Equipment
- AM FM Generator Oscilloscope . . . . . Genescope
- AM Standard Signal Generator . . . . . AM SSG
- FM Standard Signal Generator . . . . . FM SSG
- FM Stereo Generator . . . . . Stereo SG
- Oscilloscope . . . . . Scope
- Audio Oscillator . . . . . Audio Osc.
- Distortion Meter . . . . . Dist. Meter

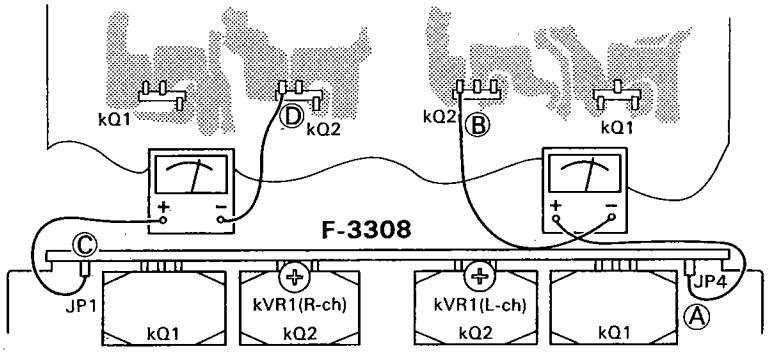
Others
- Antenna . . . . . ANT.
- Modulation . . . . . MOD.
- Total Harmonic Distortion . . . . . T.H.D.

## 3. Bias Current Adjustment (See Fig. 4-4 & Top View on Page 18, 19 & 20)

Note: 1. Master Volume . . . . . Minimum
2. Room Temperature . . . 18°C ~ 28°C (65°F ~ 85°F)
3. For Adjustment, run the unit for more than 5 minutes after the power is switched on.

| STEP | SUBJECT | MEASURE OUTPUT | ADJUST | ADJUST FOR | REMARKS |
|---|---|---|---|---|---|
| 1. | Bias Current Adj. L-ch | • 9900Z/8900ZDB<br>Between JP4 & emitter terminal kQ2 on F-3308<br>(As shown Ⓐ & Ⓑ in Fig. 4-4) | kVR1 (L-ch)<br>(F-3308) | DC 2mV | • Before turning ON power switch, turn jVR2 fully counter-clockwise.<br>This bias current value into voltage by Ohms law. |
| | | • 7900Z<br>Between emitter terminals kQ12 & kQ13 on F-3407<br>(As shown Ⓔ & Ⓕ Top of View on page 20) | kVR1 (L-ch)<br>(F-3407) | | |
| 2. | Bias Current Adj. R-ch | • 9900Z/8900ZDB<br>Between JP1 & emitter terminal kQ2 on F-3308<br>(As shownⒸ & Ⓓ in Fig. 4-4) | kVR1 (R-ch)<br>(F-3308) | DC 2mV | |
| | | • 7900Z<br>Between emitter terminals kQ12 & kQ13 on F-3407<br>(As shown Ⓖ &Ⓗ Top of View on page 20) | kVR1 (R-ch)<br>(F-3407) | | |

Fig. 4-4 (9900Z, 8900ZDB)




### ♦ Selection Intermediate Frequencies (FM)

* When the intermediate frequency (shown by color) of the ceramic filter is changed, rewire between the terminal No. 58 or 59 (F-3300) and the point Ⓐ or Ⓑ (F-3298) in accordance with table 1.
* Unify the color marks of FM ceramic filters (dCF1, dCF2, dCF3 and dCF4 (9900Z Only) ) on the F-3300 with same color.
* In 9900Z, when the FM ceramic filter is replaced with new ceramic filter set (dCF1 ~ dCF4/Stock No. 07248600), use a ceramic filter marked with J the dCF4 only.

• Table 1

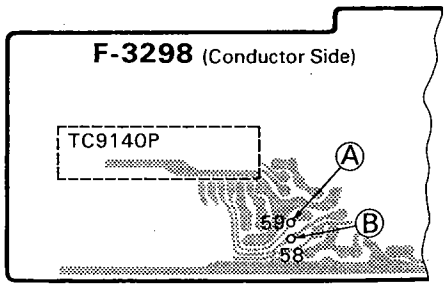
| CHANGE OF COLOURING (Intermediate Frequency) | | WIRING |
|---|---|---|
| FROM | TO | |
| WHITE (10.750 MHz) | RED (10.700 MHz) | Remove a wire between Terminal No. 58 or 59 (F-3300) and Point Ⓐ (F-3298). |
| | BLACK (10.650 MHz) | Change a connection of Point Ⓐ to Point Ⓑ (F-3298). |
| RED (10.700 MHz) | WHITE (10.750 MHz) | Connect a wire of 10 inch between Terminal No. 59 and Point Ⓐ (F-3298). |
| | BLACK (10.650 MHz) | Connect a wire of 10 inch between Terminal No. 58 and Point Ⓑ (F-3298). |
| BLACK (10.650 MHz) | WHITE (10.750 MHz) | Change a connection of Point Ⓑ to Point Ⓐ (F-3298). |
| | RED (10.700 MHz) | Remove a wire between Terminal No. 58 or 59 (F-3300) and Point Ⓑ (F-3298). |

### ♦ Note on Photo-couplers Replacement

* Unity the ranks of photo-couplers (fPH51, fPH52) on the F-3313 with same color.
* When the rank (shown by color) of the photo-coupler is changed, replace the Resistor (fR51) as shwon on the table 2.

• Table 2

| Photo Coupler (fPH51, fPH52) | | Resistor (fR51) | |
|---|---|---|---|
| Coupling | Rankings | Value (Ω) | Stock No. |
| BLUE | A | 330 | 00233200 |
| GREEN | B | 180 | 00229000 |
| ORANGE | C | 100 | 00224800 |
| WHITE | D | 82 | 00239300 |

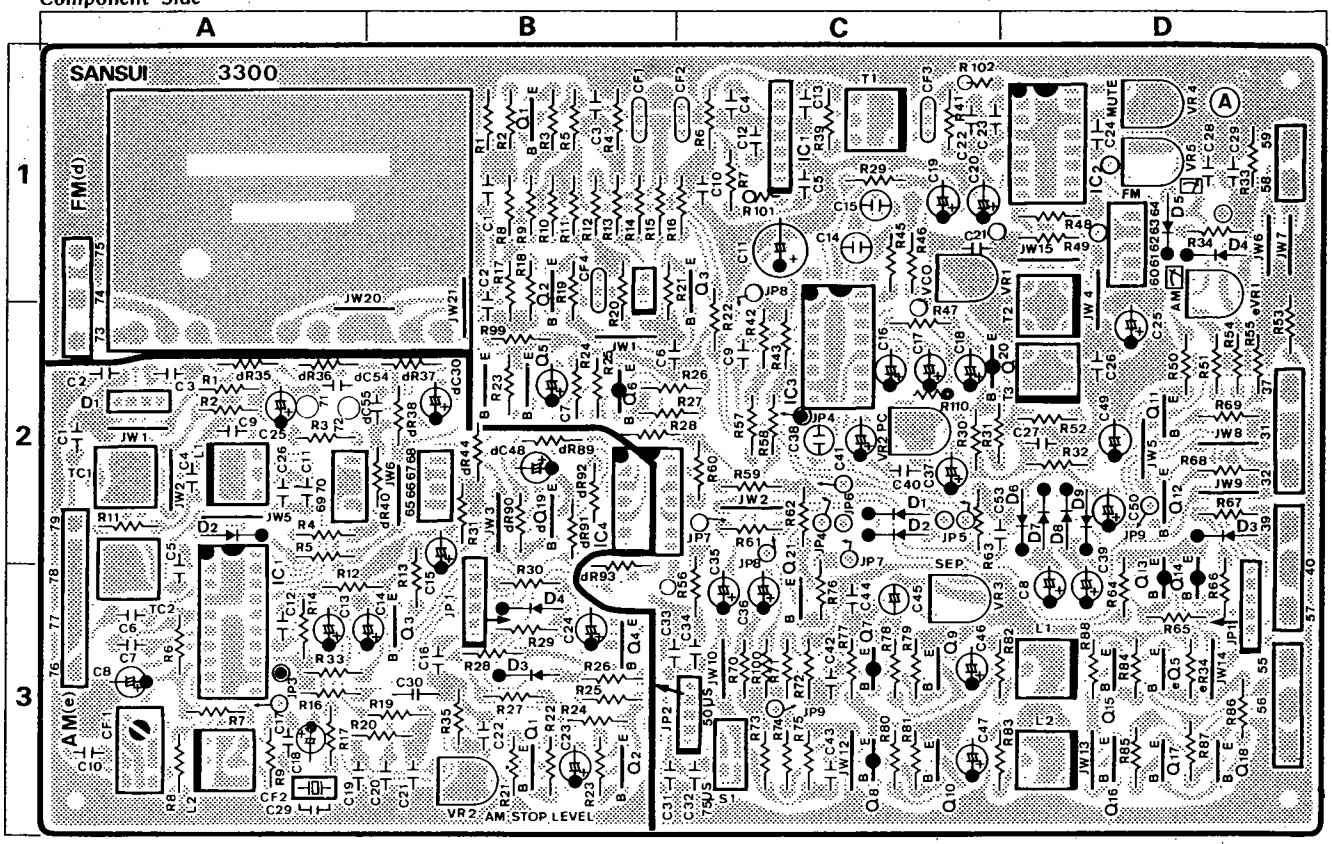


# 5. PARTS LOCATION & PARTS LIST

•Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the Common Parts List for capacitors & resistors which was appended previously to each Sansui Manual.

## 5-1. F-3300 Tuner Circuit Board

Component Side (Stock No. 00612601 = 9900Z/00618001 = 8900ZDB/00620701 = 7900Z)




### Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07113200 | FM Front-end Pack RD236U13 |
| •Transistor | | |
| dQ1 | 03063401, 2 | 2SC1674 L, K |
| dQ2 | 03063401, 2 | 2SC1674 L, K (9900Z) |
| dQ3 | 03063401, 2 | 2SC1674 L, K (9900Z) |
| dQ4 | 03059501 | 2SC945 Q (7900Z) |
| | 07194800 | 2SC1815 Y, GR (7900Z) |
| dQ5 | 07194800, 1 | 2SC1815 Y, GR |
| dQ6 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ7 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ8 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ9 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ10 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ11 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ12 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ13 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ14 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| dQ15 | 03059501~3 | 2SC945 Q, P, K |
| dQ16 | 03059501~3 | 2SC945 Q, P, K |
| dQ17 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ18 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ19 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| dQ20 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |

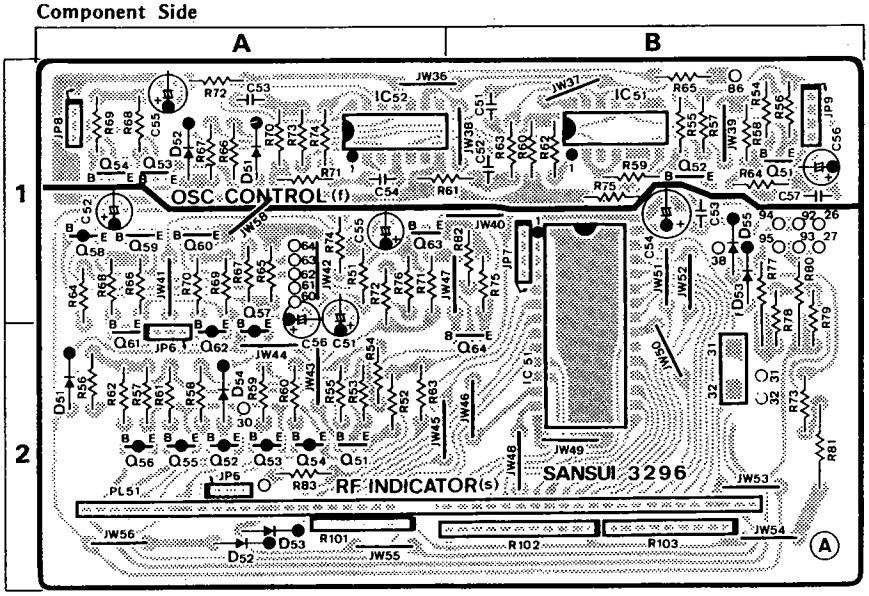
| Parts No. | Stock No. | Description |
|---|---|---|
| dQ21 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| •IC | | |
| dIC1 | 03605900 | TA7302P |
| dIC2 | 03609300 | HA11225 |
| dIC3 | 03606800 | HA11223W |
| dIC4 | 03609500 | MSM4001RS |
| | 03610500 | TC4001BP |
| •Diode | | |
| dD1 ~ 9 | 03117600 | 1S2473D |
| dC45 | 08450200 | 22μF 6.3V E.B. |
| dCF1 ~ 4 | 07248600 | Ceramic Filter Set (9900Z) |
| dCF1 ~ 3 | 07264900 | Ceramic Filter (8900ZDB/7900Z) |
| dL1 | 07196400 | Low Pass Filter |
| dL2 | 07196400 | Low Pass Filter |
| dT1 | 42359300 | FM IF Coil |
| dT2 | 42362300 | FM IF Coil |
| dT3 | 42362400 | FM IF Coil |
| dVR1 | 07241200 | Semi Variable Resistor 5kΩ (B), VCO adj. |
| dVR2 | 07241600 | Semi Variable Resistor 100kΩ (B), pilot cancel adj. |
| dVR3 | 07241200 | Semi Variable Resistor 5kΩ (B), SEP adj. |
| dVR4 | 07241200 | Semi Variable Resistor 5kΩ (B), muting adj. |
| dVR5 | 07241300 | Semi Variable Resistor 10kΩ (B), FM signal adj. |
| dS1 | 07251100 | Slide Switch, de-emphasis |

| Parts No. | Stock No. | Description |
|---|---|---|
| •Transistor | | |
| eQ1 ~ 4 | 07194800, 1 | 2SC1815 Y, GR (7900Z) |
| eQ3 | 07194700, 1 | 2SA1015 Y, GR |
| eQ5 | 03059501, 2 | 2SC945 Q, P |
| •IC | | |
| eIC1 | 07237200 | LA1245 |
| •Varactor Diode | | |
| eD1 | 07197200 | KV1226 |
| •Diode | | |
| eD3, 4 | 03117600 | 1S2473D (7900Z) |

| Parts No. | Stock No. | Description |
|---|---|---|
| eTC1, 2 | 12301000 | Trimmer Capacitor 15pF |
| eCF1 | 07254000 | Ceramic Filter |
| eCF2 | 07265100 | Ceramic Filter (7900Z) |
| eL1 | 46027100 | AM OSC Coil |
| eL2 | 42306200 | AM IF Coil 455 kHz |
| eVR1 | 07241300 | Semi Variable Resistor 10kΩ (B), AM signal adj. |
| eVR2 | 07241500 | Semi Variable Resistor 50kΩ (B), AM auto search level adj. (7900Z) |

## 5-2. F-3296 Digitally Frequency Display Circuit Board (Stock No. 00614401 = 9900Z, 8900ZDB/00621801 = 7900Z)

Component Side



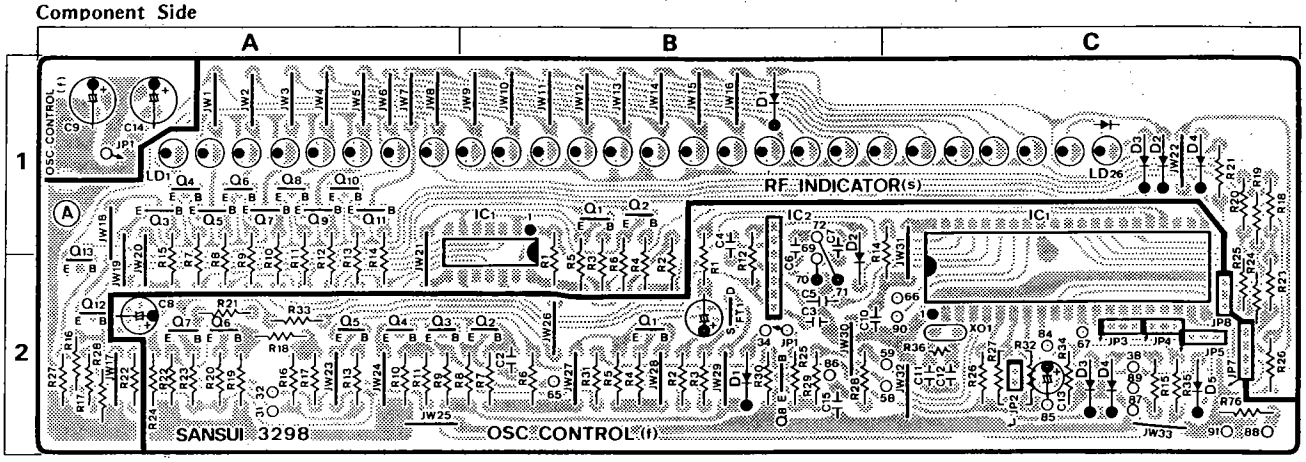

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| •Transistor | | |
| sQ51 | 03059500, 1 | 2SC945 R, Q |
| sQ52 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ53 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ54 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ55 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ56 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ57 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ58 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ59 | 07194800, 1 | 2SA1015 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ60 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ61 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ62 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| sQ63 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ64 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| •IC | | |
| sIC51 | 07225100 | TD6301P |
| •Diode | | |
| sD51~55 | 03111600 | 1S2473D |

| Parts No. | Stock No. | Description |
|---|---|---|
| sPL51 | 00000100 | Fluorescent Display Tube |
| sPL52 | 04007600 | Pilot Lamp 8V 300mA |
| sPL53 | 04006600 | Pilot Lamp 8V 150mA |
| sR101 | 07267200 | RM65.6kΩ x 6 (Block Resistor) |
| sR102 | 07267400 | RM105.6kΩ x 10 (Block Resistor) |
| sR103 | 07267300 | RM85.6kΩ x 8 (Block Resistor) |
| <9900Z, 8900ZDB Only> | | |
| •Transistor | | |
| fQ51 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| fQ52 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| fQ53 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| fQ54 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| •IC | | |
| fIC51 | 03604000 | MSM4011 |
| | 03604100 | TC4011P |
| fIC52 | 03604000 | MSM4011 |
| | 03604100 | TC4011P |
| •Diode | | |
| fD51 | 03111600 | 1S2473D |
| fD52 | 03111600 | 1S2473D |
| fD53 | 03111600 | 1S2473D |

## 5-3. F-3298 Analog Dial Display Circuit Board (Stock No. 00614601 = 9900Z, 8900ZDB/00622001 = 7900Z)

Component Side



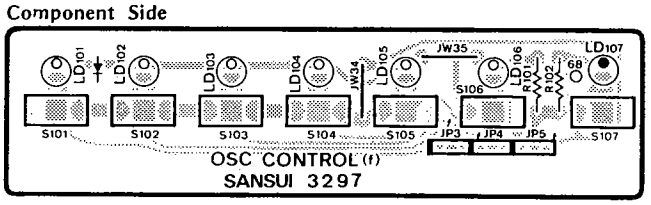

### Parts List

| Parts No. | Stock No | Description |
|---|---|---|
| | 07581700 | LED Holder (13-Point) |
| •Transistor | | |
| fQ1 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, O |
| fQ2 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| fQ3 | 07194700, 1 | 2SA1015 Y, GR |
| | 07197000, 1 | 2SA733A R, Q |
| fQ4 | 03059500, 1 | 2SC945 R, Q |
| fQ5 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| fQ6 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| fQ7 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| fQ8 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| •FET | | |
| fFT1 | 03703402 ~ 5 | 2SK163 L1, L2, M1, M2 |
| •IC | | |
| fIC1 | 07225200 | TC9140P |
| fIC2 | 07225000 | TD6104P |
| fXO1 | 07237700 | Quartz Element NC-18C (7.2 MHz) |
| •Diode | | |
| fD1 ~ 5 | 03111600 | 1S2473D |
| fC1 | 00306800 | 1 μF 50V E.B. |
| fSP1 | 07261000 | Buzzer PB-2711 |

| Parts No. | Stock No. | Description |
|---|---|---|
| •Transistor | | |
| sQ1 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ2 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ3 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ4 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ5 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ6 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ7 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ8 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ9 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ10 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ11 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ12 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| sQ13 | 07194800, 1 | 2SC1815 Y, GR |
| | 03059500, 1 | 2SC945 R, Q |
| •IC | | |
| sIC1 | 03610500 | TC4001BP |
| | 03609500 | MSM4001RS |
| •Diode | | |
| sD1 ~ 4 | 03111600 | 1S2473D |
| sLD1~26 | 03193700 | Light Emitting Diode SEL1110S |

## 5-4. F-3297 Preset Section Circuit Board (Stock No. 00614501 = 9900Z, 8900ZDB/00621901 = 7900Z)

Component Side

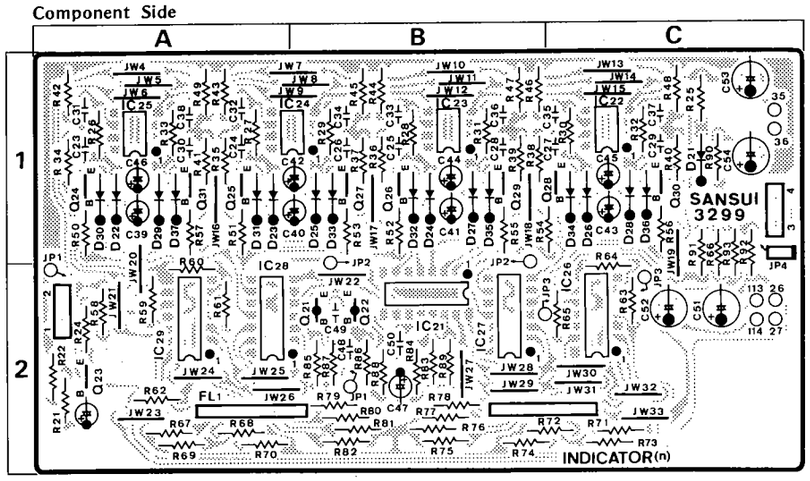



### Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| fLD101 ~ 106 | 07246200 | Light Emitting Diode SEL1710K |
| fLD107 | 03193700 | Light Emitting Diode SEL1110S |
| fS101 | 11320900 | Push Switch |
| fS102 | 11320900 | Push Switch |
| fS103 | 11320900 | Push Switch |
| fS104 | 11320900 | Push Switch |
| fS105 | 11320900 | Push Switch |
| fS106 | 11320900 | Push Switch |
| fS107 | 11320900 | Push Switch |

## 5-5. F-3299 Spectrum Analysis Display Circuit Board (Stock No. 00614701 = 9900Z, 8900ZDB/00622101 = 7900Z)

Component Side

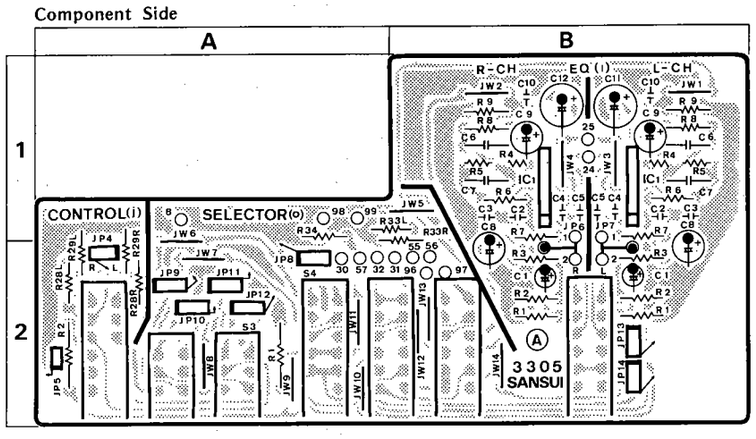



Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| •Transistor | | |
| nQ21 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| nQ22 | 07197001 | 2SA733A Q |
| | 07194700, 1 | 2SA1015 Y, GR |
| nQ23 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| nQ24 | 03059501 | 2SC945 Q (9900Z/8900ZDB) |
| | 07194800, 1 | 2SC1815 Y, GR |
| nQ25 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| nQ26 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| nQ27 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| nQ28 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| nQ29 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| nQ30 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| nQ31 | 03059501 | 2SC945 Q |
| | 07194800, 1 | 2SC1815 Y, GR |
| •IC | | |
| nIC21 | 07246400 | MSM4022RS |
| nIC22 | 03607700 | NJM4558D |
| nIC23 | 03607700 | NJM4558D |
| nIC24 | 03607700 | NJM4558D |
| nIC25 | 03607700 | NJM4558D (9900Z/8900ZDB) |
| nIC26 | 07246300 | MB4204M |
| nIC27 | 07246300 | MB4204M |
| nIC28 | 07246300 | MB4204M |
| nIC29 | 07246300 | MB4204M |
| nD21~37 | 03111600 | 1S2473D |
| nFL1 | 07237800 | FL Display Unit FG64SA6 |

## 5-6. F-3305 EQ. Amp. & Input Terminal Circuit Board (Stock No. 00613101 = 9900Z, 8900ZDB/00621301 = 7900Z)

Component Side

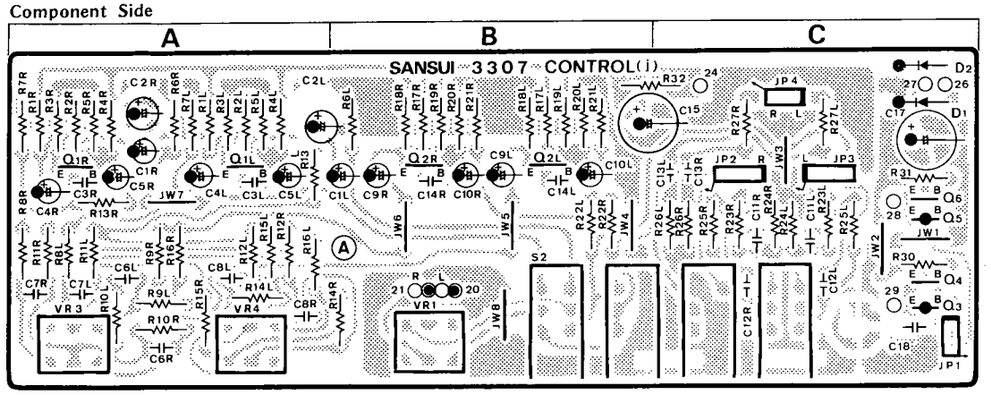



Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| •IC | | |
| iIC1 | 07197400 | M5214L |
| iC6 | 00413200 | 0.016μF 100V P.C. |
| iC7 | 00414500 | 0.056μF 100V P.C. |
| iC9 | 00306000 | 3.3μF 25V E.B. |
| oS3 | 07242500 | Push Switch, tape mon. |
| oS4 | 07242800 | Push Switch, input selector |

## 5-7. F-3307 Tone Control Circuit Board (Stock No. 00613301 = 9900Z, 8900ZDB)

Component Side

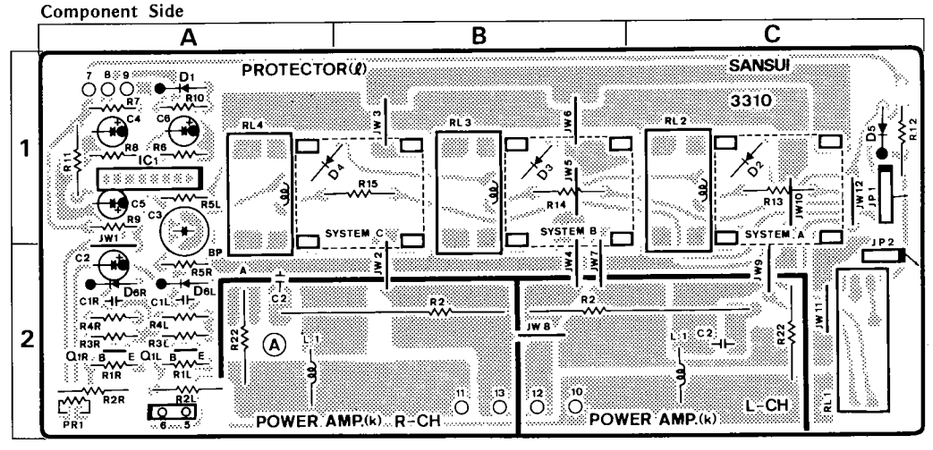



Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| •Transistor | | |
| jQ1 | 07225400, 1 | 2SC2320L F, G |
| jQ2 | 07225400, 1 | 2SC2320L F, G |
| | 07206800, 1 | 2SA952 M, L |
| jQ3 | 07254800, 1 | 2SA854 Q, R |
| | 03033601, 2 | 2SB560MP E, F |
| | 07206900, 1 | 2SC2001 M, L |
| jQ4 | 07254900, 1 | 2SC1741 Q, R |
| | 03085201, 2 | 2SD438 E, F |
| | 07206800, 1 | 2SA952 M, L |
| jQ5 | 07254800, 1 | 2SA854 Q, R |
| | 03033601, 2 | 2SB560MP E, F |
| | 07206900, 1 | 2SC2001 M, L |
| jQ6 | 07254900, 1 | 2SC1741 Q, R |
| | 03085201, 2 | 2SD438 E, F |
| •Diode | | |
| jD1 ~ 2 | 03103400 | 10D-1 |
| jVR1 | 07242200, 1 | Variable Resistor 150kΩ (MN), balance |
| jVR3 | 07242300, 1 | Variable Resistor 100kΩ (B), treble |
| jVR4 | 07242300, 1 | Variable Resistor 100kΩ (B), bass |
| jS2 | 07243000 | Push Switch, defeat, mode, loudness, hi-filter |

## 5-8. F-3310 Protector Circuit Board (Stock No. 00613601 = 9900Z/00619001 = 8900ZDB)

Component Side

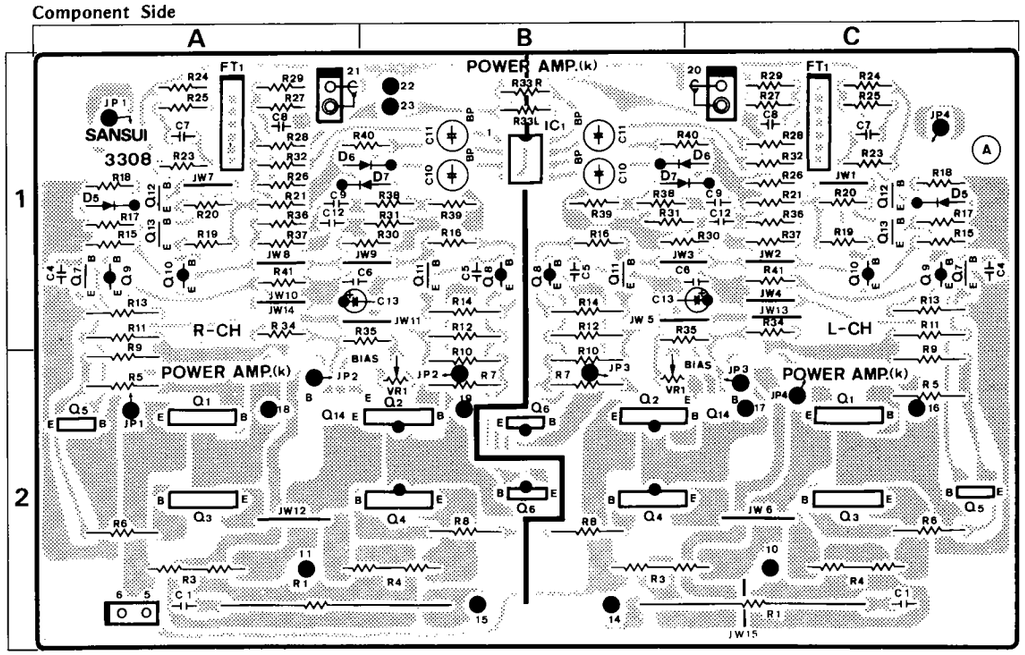



Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| kR2 | 00158700 | 10Ω 5W N.I.R. |
| kR22 | 00188200 | 2.2Ω 2W N.I.R. |
| kL1 | 42903700 | Peaking Coil |
| •Transistor | | |
| lQ1 | 03010300 | 2SA939B |
| •IC | | |
| lIC1 | 03609000 | HA12002 |
| •Diode | | |
| lD1 ~ 5 | 03103400 | 10D-1 |
| lD6 | 03111600 | 1S2473D |
| lPR1 | 03201300 | Thermistor |
| lC3 | 00302900 | 220μF 6.3V E.B. |
| lRL1 | 11504300 | Relay |
| lRL2 | 07198400 | Relay |
| lRL3 | 07198400 | Relay |
| lRL4 | 07198400 | Relay (9900Z) |
| | 07202900 | 4P Terminal Board, speaker |

## F-3308 Power Amp. Circuit Board (Stock No. 00613401 = 9900Z/00618801 = 8900ZDB)

Component Side



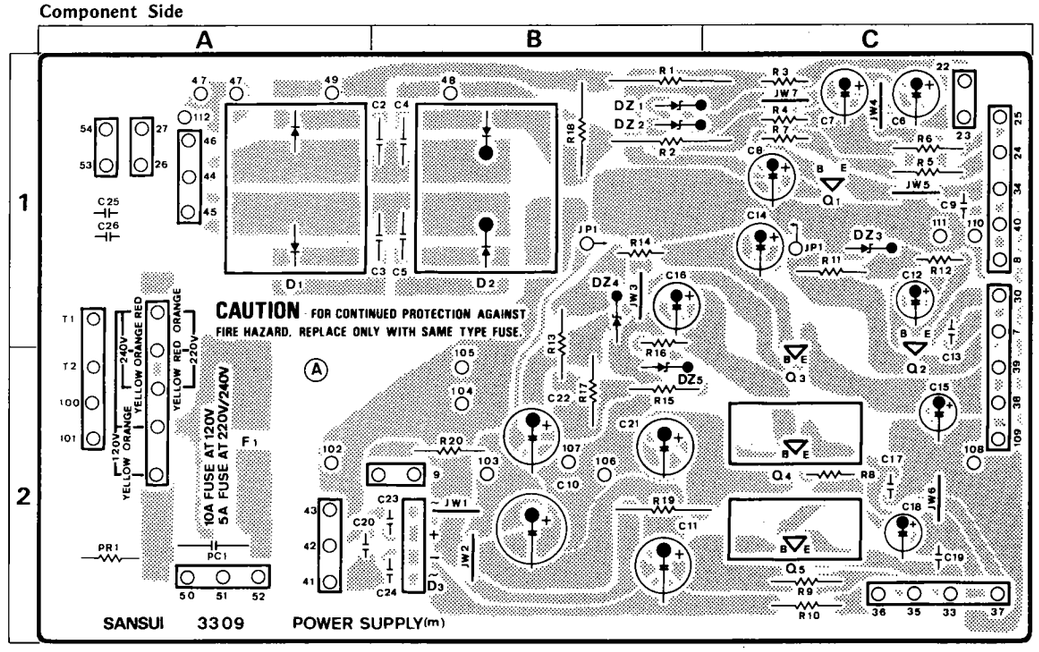

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| ●Transistor | | |
| kQ1 | 07246800, 1 | 2SC2773 O, Y (9900Z) |
| | 07246900, 1 | 2SC2774 O, Y (8900ZDB) |
| kQ2 | 07246600, 1 | 2SA1169 O, Y (9900Z) |
| | 07246700, 1 | 2SA1170 O, Y (8900ZDB) |
| kQ3 | 07246800, 1 | 2SC2773 O, Y (9900Z) |
| kQ4 | 07246600, 1 | 2SA1169 O, Y (9900Z) |
| kQ5 | 03067200, 1 | 2SC2238B O, Y (9900Z) |
| | 03069301 | 2SC2238 Y (8900ZDB) |
| kQ6 | 03010700, 1 | 2SA968B O, Y (9900Z) |
| | 03012401. | 2SA968 Y (8900ZDB) |
| kQ7 | 03066800, 1 | 2SC2071 B, V |
| kQ8 | 03010300, 1 | 2SA939 B, Y |
| kQ9 | 03010300, 1 | 2SA939 B, V |
| kQ10 | 03010300, 1 | 2SA939 B, V |
| kQ11 | 03066800, 1 | 2SC2071 B, V |
| kQ12 | 03067400, 1 | 2SC1845 F, E |
| kQ13 | 03067400, 1 | 2SC1845 F, E |
| kQ14 | 03064001, 2 | 2SC1904 B, V |

| Parts No. | Stock No. | Description |
|---|---|---|
| ●FET | | |
| kFT1 | 07110000, 1 | μPA68H L, M |
| ●IC | | |
| kIC1 | 03607700 | NJM4558D |
| ●Diode | | |
| kD5 ~ 7 | 03111600 | 1S2473D |
| kR1 | 00158700 | 10Ω 5W N.I.R. |
| kR3 | 00091700 | 0.33Ω 5W C.R. |
| kR4 | 00091700 | 0.33Ω x 2 5W C.R.(9900Z) |
| kC3 | 00380500 | 10000pF 500V C.C. |
| kC10 | 00302500 | 10μF 6.3V E.B. |
| kC11 | 00305200 | 4.7μF 16V E.B. |
| kC14 | 00408600 | 0.1μF 100V M.C. |
| kVR1 | 10336300 | Semi Variable Resistor 1kΩ (B), bias current adj. |

## 5-11. F-3309 Power Supply Circuit Board (Stock No. 00613501 = 9900Z/00618901 = 8900ZDB)

Component Side

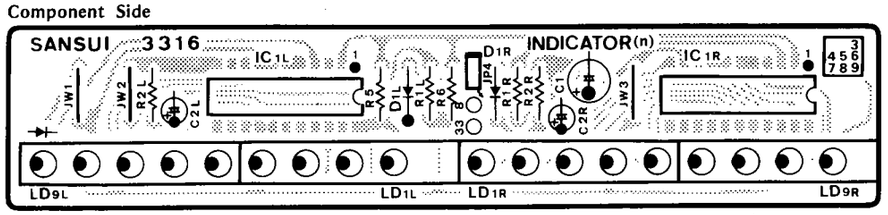



Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| ●Transistor | | |
| mQ1 | 03085201, 2 | 2SD438 E, F |
| mQ2 | 03084801, 2 | 2SD358 D, E |
| mQ3 | 03084302, 3 | 2SD381 L, K |
| mQ4 | 03084302, 3 | 2SD381 L, K |
| mQ5 | 03084302, 3 | 2SD381 L, K |
| ●Diode | | |
| <9900Z> | | |
| mD1 | 03116700 | SS-7 |
| mD2 | 03116800 | SS-7R |
| mD3 | 03117000 | RB-152 |
| <8900ZDB> | | |
| mD1 | 03113100 | SS-5 |
| mD2 | 03113200 | SS-5R |
| mD3 | 03117000 | RB-152 |
| ●Zener Diode | | |
| mDZ1 | 03172100 | RD30F-B |
| mDZ2 | 03172100 | RD30F-B |
| mDZ3 | 03164700 | RD20E-B |
| mDZ4 | 03164100 | RD6.8E-B |
| mDZ5 | 03163300 | RD15E-B |
| mDZ6 | 07181500 | RD22E-B |
| mR1 | 00105900 | 1 kΩ 5W C.R. (9900Z) |
| | 00108400 | 820Ω 5W C.R. (8900ZDB) |
| mR2 | 00194500 | 1.8 kΩ 3W N.I.R. |
| mR17 | 00181200 | 220Ω 1W N.I.R. |
| mR18 | 00187500 | 18 kΩ 2W N.I.R. |
| mR19 | 00188900 | 33Ω 2W N.I.R. |
| mC2 | 00380500 | 10000pF 500V C.C. |
| mC3 | 00380500 | 10000pF 500V C.C. |
| mC4 | 00380500 | 10000pF 500V C.C. |
| mC5 | 00380500 | 10000pF 500V C.C. |
| pC1 | 00386100 | 4700pF 150V C.C. |
| | 00386500 | 4700pF 125V C.C. |
| <9900Z> | | |
| pF1 | 04341000 | Fuse 12A 125V (120V) |
| | 04323000 | Fuse 6.0A 125V (220V ~ 240V) |
| <8900ZDB> | | |
| pF1 | 04325900 | Fuse 10A 125V (120V) |
| | 04322900 | Fuse 5.0A 125V (220V ~ 240V) |

## 0. F-3316 Power Peak Indicator Circuit Board (Stock No. 00614201 = 9900Z/8900ZDB/00621701 = 7900Z)

Component Side



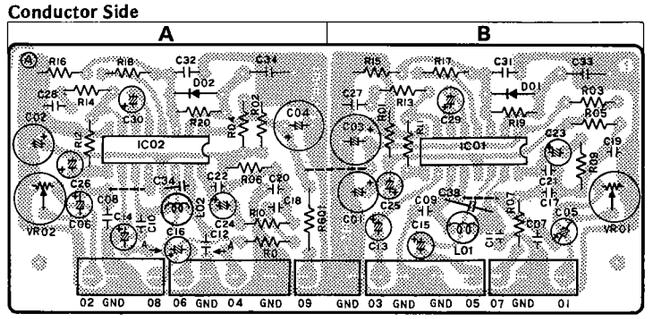

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07581600 | LED Holder (5-Point) |
| ●IC | | |
| nIC1 | 07246000 | IR2431 |

| Parts No. | Stock No. | Description |
|---|---|---|
| ●Diode | | |
| nD1 | 03103300 | 1N60 |
| nLD1 ~ 9 | 03193700 | Light Emitting Diode SEL1110S |

## 5-12. F-2688 DOLBY NR Circuit Board (Stock No. 76601701 = 8900ZDB)

Conductor Side



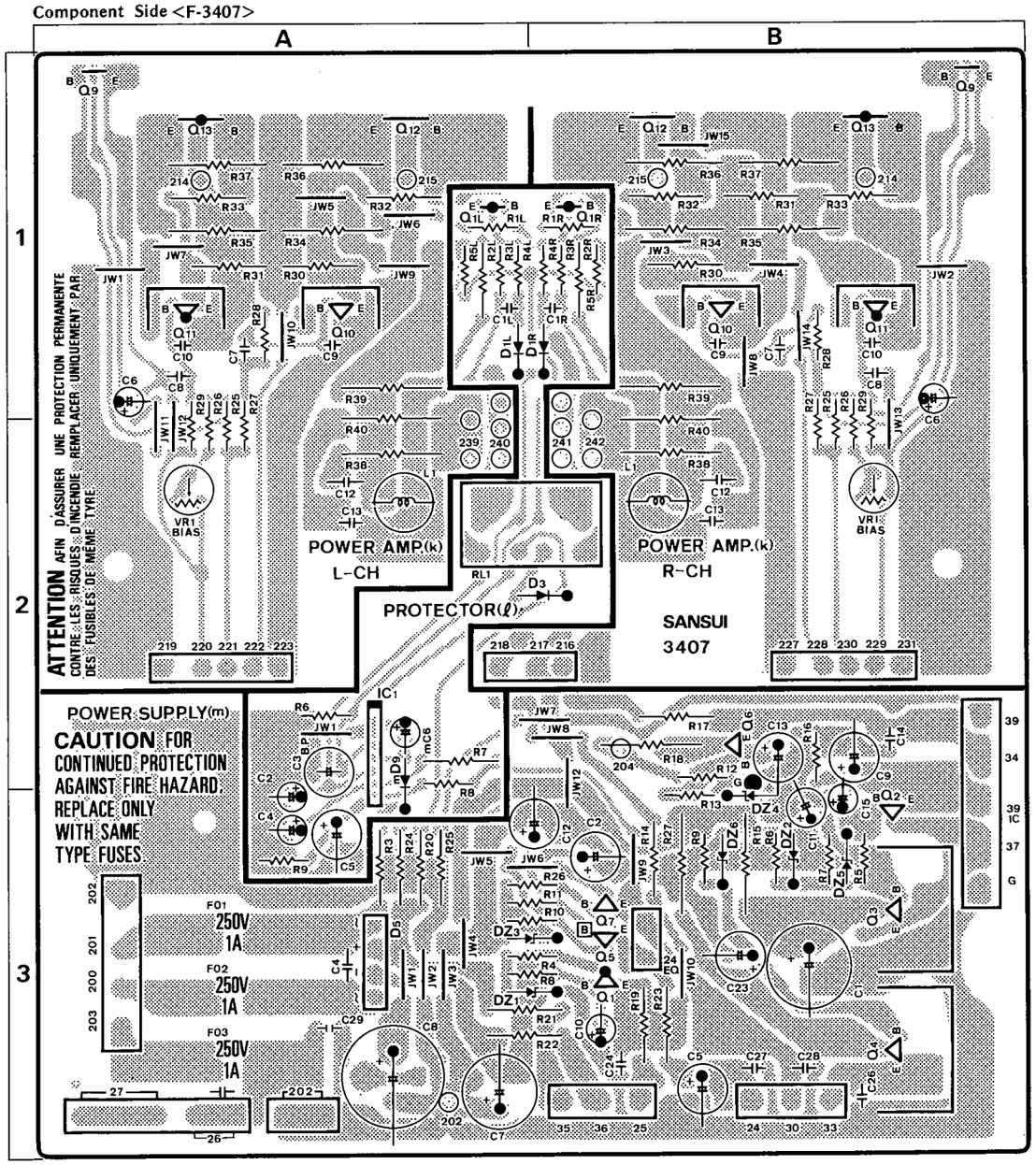

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| ●IC | | |
| IC01 | 03603400 | NE545B |
| ●Diode | | |
| D01 | 03104000 | 1N34A |
| rD601 | 03103400 | 10D-1 |
| L01 | 49002600 | Inductor 10mH |
| VR01 | 10354300 | Semi Variable Resistor 100 kΩ (B) |

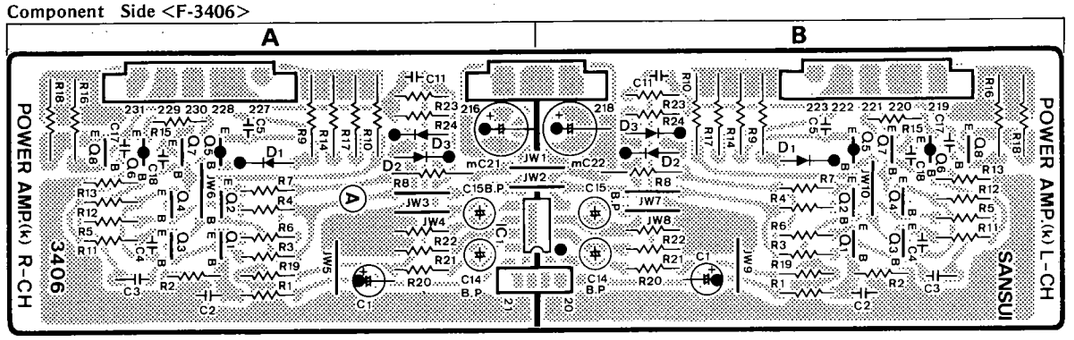
## -13. F-3407 Power Supply & F-3406 Power Amp. Circuit Board (Stock No. 00622701 = 7900Z)

- Note: The printed circuit boards F-3406 and F-3407 are not provided separately. Therefore, both circuit board are supplied together even when you order one of these.

Component Side <F-3407>




Component Side <F-3406>




### Parts List

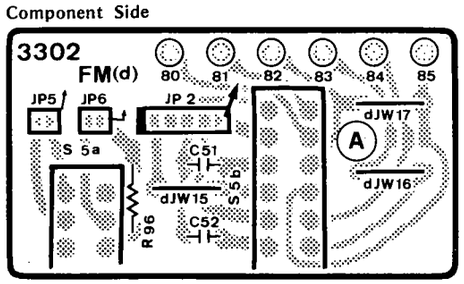
| Parts No. | Stock No. | Description |
|---|---|---|
| <F-3406 Section> | | |
| •Transistor | | |
| kQ1 ~ 4 | 03067400, 1 | 2SC1845 E, F |
| kQ5, 6 | 03010900, 1 | 2SA992 E, F |
| kQ7 | 03010300, 1 | 2SA939 B, V |
| kQ8 | 03066800, 1 | 2SC2071 B, V |
| •IC | | |
| kIC1 | 03607700 | NJM4558D |
| •Diode | | |
| kD1 | 03111800 | 1S1588 |
| | 03111600 | 1S2473D |
| kD2 | 03111800 | 1S1588 |
| | 03111600 | 1S2473D |
| kD3 | 03111800 | 1S1588 |
| | 03111600 | 1S2473D |
| kC14 | 00306200 | 4.7μF 25V E.B. |
| kC15 | 00305400 | 10μF 25V E.B. |
| <F-3407 Section> | | |
| •Transistor | | |
| kQ9 | 03067400, 1 | 2SC1845 E, F |
| kQ10 | 03067201 | 2SC2238B Y |
| kQ11 | 03010701 | 2SA968B Y |
| kQ12 | 07260200, 1 | 2SC2773LB O, Y |
| kQ13 | 07260100, 1 | 2SA1169LB O, Y |
| kR34 | 00191700 | 0.68Ω 2W N.I.R. |
| kR35 | 00191700 | 0.68Ω 2W N.I.R. |
| kR36 | 00191700 | 0.68Ω 2W N.I.R. |
| kR37 | 00191700 | 0.68Ω 2W N.I.R. |
| kR38 | 00185500 | 10Ω 2W N.I.R. |
| kR39 | 00186000 | 1Ω 2W N.I.R. |
| kR40 | 00190600 | 4.7Ω 2W N.I.R. |
| kL1 | 42903700 | Peaking Coil |
| kVR1 | 10350700 | Semi Variable Resistor 1kΩ (B), bias current adj. |
| •Transistor | | |
| IQ1 | 03010900, 1 | 2SA992 E, F |

| Parts No. | Stock No. | Description |
|---|---|---|
| •IC | | |
| IIC1 | 03609000 | HA12002 |
| •Diode | | |
| ID1 | 03111800 | 1S1588 |
| | 03111600 | 1S2473D |
| ID3 | 03103400 | 10D-1 |
| IC3 | 00303800 | 330μF 10V E.B. |
| IRL1 | 07198400 | Relay |
| •Transistor | | |
| mQ1 | 03033601, 2 | 2SB560MP E, F |
| mQ2 | 03085201, 2 | 2SD438 E, F |
| mQ3 | 03083902, 3 | 2SD313AL E, F |
| mQ4 | 03083902, 3 | 2SD313AL E, F |
| mQ5 | 03085201, 2 | 2SD438 E, F |
| mQ6 | 03085201, 2 | 2SD438 E, F |
| mQ7 | 03084501, 2 | 2SD356 D, E |
| •Diode | | |
| mD5 | 03117000 | RB-152 |
| mD9 | 03103400 | 10D-1 |
| •Zener Diode | | |
| mZD1 | 03164900 | RD-22E-B |
| mZD2 | 03163300 | RD-15E-B |
| mZD3 | 03164900 | RD-22E-B |
| mZD4 | 03165700 | RD-33E-B |
| mZD5 | 03164100 | RD6.8E-B |
| mZD6 | 03163300 | RD-15E-B |
| mR3 | 00180800 | 1.8 kΩ 1W N.I.R. |
| mR15 | 00188900 | 33Ω 2W N.I.R. |
| mR18 | 00192000 | 820Ω 2W N.I.R. |
| mR27 | 00190700 | 56Ω 2W N.I.R. |
| mC4 | 00380600 | 2200pF 500V C.C. |
| mF1 ~ 3 | 07188400 | Fuse 1A 250 V |

- Note: The circuit boards, F-3302, F-3301, F-3303, F-3304, F-3306, F-3317, F-3431, F-3311, F-3312, F-3313, F-3314, F-3401, F-3402, F-3403, F-3405, & F-3430 are not supplied as the assembled.
  However, the individual parts on the circuit board are provided by orders.

## 5-14. F-3302 FM Mode Switch Circuit Board (9900Z/8900ZDB/7900Z)

Component Side




### Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| dS5 | 07242600 | Push Switch |

## 5. F-3301 FM Stereo Indicator Circuit Board (9900Z/8900ZDB/7900Z)

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| dLD1 | 03193700 | Light Emitting Diode SEL1110S |

## 6. F-3303 Audio Muting Circuit Board (9900Z/8900ZDB/7900Z)

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07581900 | LED Holder |
| nLD15 | 03193700 | Light Emitting Diode SEL1110S |

## 7. F-3304 Input Terminal Circuit Board (9900Z/8900ZDB/7900Z)

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| | 22006000 | Terminal Board 2P, phono 1 |
| | 22006500 | Terminal Board 4P, tape 1, 2 |
| | 22006200 | Terminal Board 4P, phono 2, aux |

## 8. F-3306 Input Source Indicator Circuit Board (9900Z/8900ZDB)

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07581900 | LED Holder |
| nLD10 ~ 14 | 03193700 | Light Emitting Diode SEL1110S |

## 9. F-3317 IF Output (AM Stereo) Circuit Board (9900Z/8900ZDB/7900Z)

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07257600 | 1P Terminal Board, AM stereo |

## 10. F-3431 AM Channel Selector Circuit Board (9900Z/8900ZDB/7900Z)

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| fS1 | 11102800 | Slide Switch |

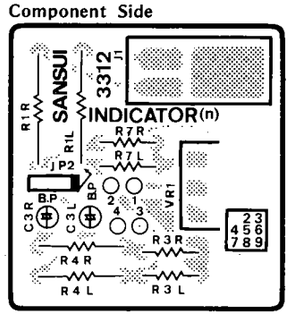
## 5-21. F-3311 Speaker Selector Switch Circuit Board (9900Z/8900ZDB)

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| <9900Z> | | |
| oS1 | 07243100 | Push Switch |
| <8900ZDB> | | |
| oS1 | 07242900 | Push Switch |

## 5-22. F-3312 Head Phone Jack Circuit Board (9900Z/8900ZDB)

Component Side

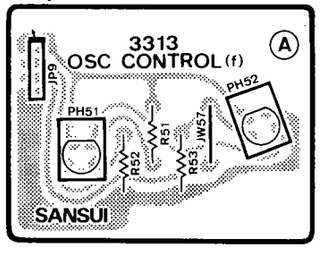



Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| nC3 | 00306800 | 1μF 50V E.B. |
| nVR1 | 07242400, 1 | Variable Resistor 100kΩ (B), analyzer level |
| oJ1 | 07204100 | Head Phone Jack |
| pR1 | 00187800 | 220Ω 2W N.I.R. |

## 5-23. F-3313 Manual Tuning (Up/Down) Detector Circuit Board (9900Z/8900ZDB)

Component Side




Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| fPH51 | 07237400 | Photo Coupler |
| fPH52 | 07237400 | Photo Coupler |

## 5-24. F-3314 Master Volume (Up/Down) Switch Circuit Board (9900Z/8900ZDB)

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| jS1 | 07246100 | Push Switch |
| jS2 | 07246100 | Push Switch |

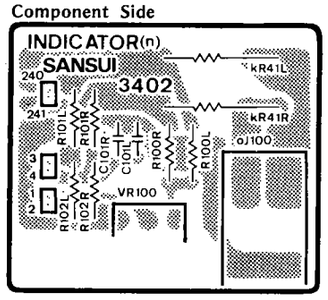
## 5-25. F-3401 Speaker Terminal Circuit Board (7900Z)

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| | 07183300 | 8P Terminal Board |

## 5-26. F-3402 Head Phone Jack Circuit Board (7900Z)

Component Side




Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| nVR100 | 07242400, 1 | Variable Resistor 100kΩ (B), analyzer level |
| oJ1 | 07204100 | Head Phone Jack |

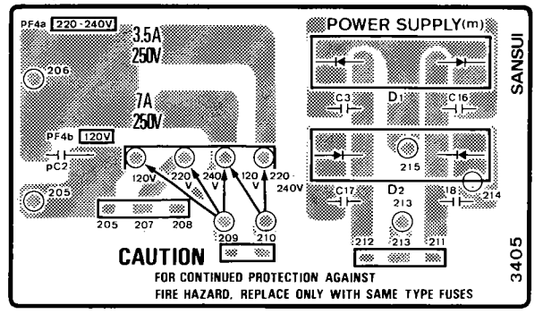
## 5-27. F-3403 Speaker Selector Switch Circuit Board (7900Z)

Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| oS1 | 07255300, 1 | Push Switch |

## 5-28. F-3405 Rectifier Circuit Board (7900Z)

Component Side




Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| •Diode | | |
| mD1 | 03113100 | SS-5 |
| mD2 | 03113200 | SS-5R |
| mC3 | 00380600 | 2200pF 500V C.C. |
| mC16 | 00380600 | 2200pF 500V C.C. |
| mC17 | 00380600 | 2200pF 500V C.C. |
| mC18 | 00380600 | 2200pF 500V C.C. |
| pC2 | 00386100 | 4700pF 150V C.C. |

## 5-29. F-3430 Manual Tuning (Up/Down) Switch Circuit Board (7900Z)

Parts List

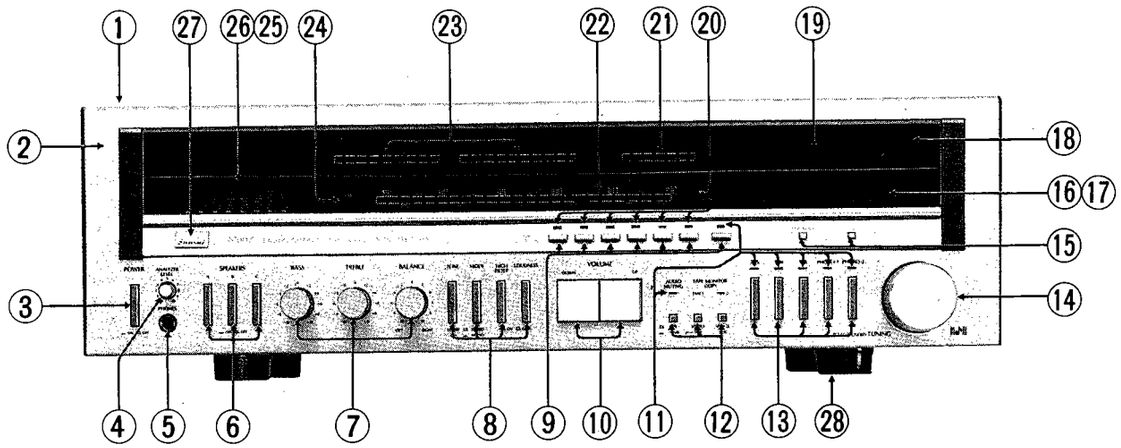
| Parts No. | Stock No. | Description |
|---|---|---|
| fS108 | 07246100 | Push Switch |
| | 07246100 | Push Switch |

### • Abbreviations

| | | | |
|---|---|---|---|
| C.R. | Carbon Resistor | E.L. | Low Leak Electrolytic Capacitor |
| S.R. | Solid Resistor | E.B. | Bi-Polar Electrolytic Capacitor |
| Ce.R. | Cement Resistor | E.BL. | Low Leak Bi-Polar Electrolytic Capacitor |
| M.R. | Metal Film Resistor | Ta.C. | Tantalum Capacitor |
| F.R. | Fusing Resistor | F.C. | Film Capacitor |
| N.I.R. | Non-Inflammable Resistor | M.P. | Metalized Paper Capacitor |
| C.C. | Ceramic Capacitor | P.C. | Polystyrene Capacitor |
| C.T. | Ceramic Capacitor, Temperature Compensation | G.C. | Gimmic Capacitor |
| E.C. | Electrolytic Capacitor | | |

# 6. OTHER PARTS

## 6-1. Front View <9900Z>




Parts List <Front View>

| Parts No. | Stock No. | Description |
|---|---|---|
| 1 | 07656310 | Wood Bonnet |
| 2 | 07653120 | Front Panel Ass'y |
| | 07648800 | Panel Side Frame |
| | 07648900 | Front Glass |
| 3 | 07580300 | Push Knob, power |
| | 07628000 | Push Knob Guide |
| 4 | 07646100 | Knob, analyzer level |
| 5 | 07204100 | Head Phone Jack |
| 6 | 07580300 | Push Knob, speakers |
| | 07581300 | Push Knob Guide |
| 7 | 07615600 | Knob, bass, treble, balance |
| 8 | 07580300 | Push Knob, tone, mode, hi-filter, loudness |
| | 07581300 | Push Knob Guide |
| 9 | 07649810 | Preset Knob Ass'y |
| 10 | 07652300 | Push Knob Ass'y, volume |
| 11 | 07578000 | Indicator (Red) |
| 12 | 07580100 | Push Knob, audio muting, tape mon. 1, 2 |
| | 07580900 | Push Knob Guide |
| 13 | 07580300 | Push Knob, input selector |
| | 07652400 | Push Knob Guide |
| 14 | 07646000 | Knob, tuning |
| 15 | 07580100 | Push Knob, FM IF band, FM mode/FM muting |
| | 07580900 | Push Knob Guide |
| 16 | 00000100 | Fluorescent Display Unit |
| 17 | 54464600 | Smoked Plate (A) |
| 18 | 07652700 | Dial Back Plate |
| 19 | 07616100 | Indicator (Red) |
| 20 | 07578200 | Indicator (Amber) |
| 21 | 07600300 | Indicator Film |
| 22 | 07646300 | Indicator (9-point) |
| 23 | 07615800 | Indicaotr (14-point) |
| | 07654500 | Indicator (4-point) |
| 24 | 07652500 | Dial Scale |
| 25 | 07237800 | Fluorescent Display Unit, spectrum analyzer |
| 26 | 07616300 | Smoked Plate |
| 27 | 07607300 | Sansui Badge (B) |
| 28 | 55168210 | Leg |

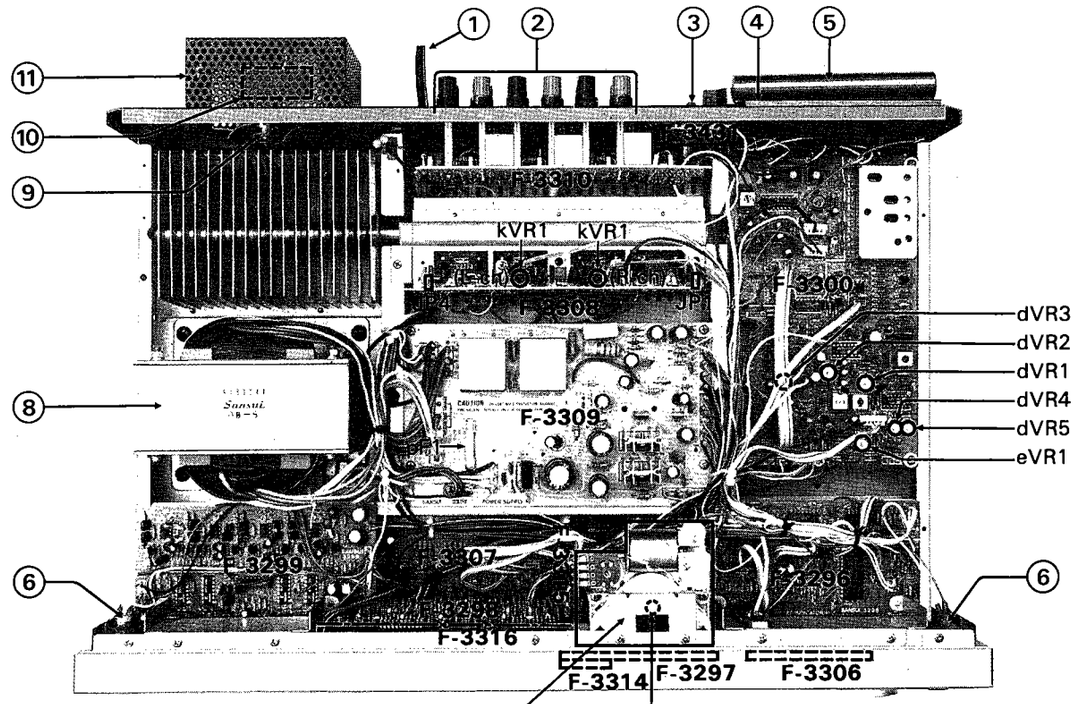
Parts List <Top View>

| Parts No. | Stock No. | Description |
|---|---|---|
| 1 | 38004900 | Power Supply Cord |
| 2 | 07202900 | Speaker Terminal |
| 3 | 11102800 | Slide Switch, AM channel selector |
| 4 | 07563310 | Battery Case Ass'y |
| 5 | 07204800 | AM Bar Antenna |
| 6 | 04007600 | Pilot Lamp 8V 300mA |
| 7 | 04006600 | Pilot Lamp 8V 150mA |
| 8 | 15002001 | Power Transformer |
| 9 | 07255000 | Fan |
| 10 | 07255100 | Motor |
| 11 | 07651910 | Fan Cover |
| pF1 | 04341000 | Fuse 12A 125V (120V) |
| | 04323000 | Fuse 6A 125V (220V ~ 240V) |

Parts List <Bottom View>

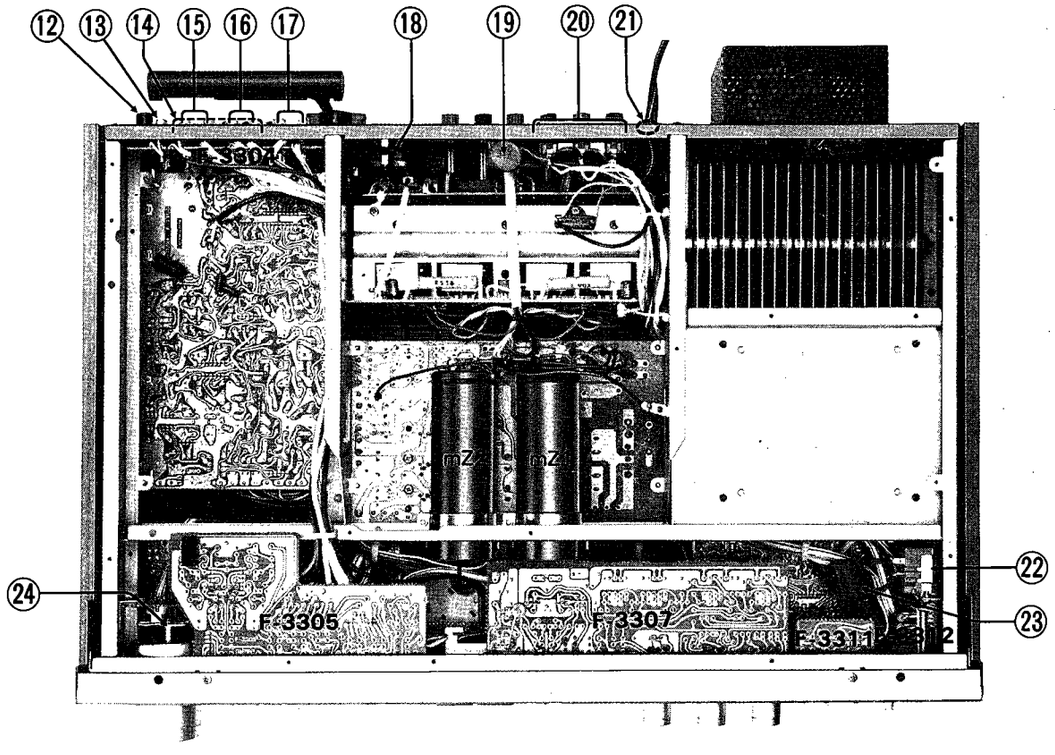
| Parts No. | Stock No. | Description |
|---|---|---|
| 12 | 22301900 | Ground Terminal |
| 13 | 22006000 | 2P Input Terminal Board, phono 1 |
| 14 | 22103110 | Antenna Terminal Board |
| 15 | 22006200 | 4P Input Terminal, phono 2, aux |
| 16 | 22006500 | 4P Input Terminal Board, tape 1 |
| 17 | 22006500 | 4P Input Terminal Board, tape 2 |
| 18 | 07257600 | 1P Input Terminal, AM stereo adaptor |
| 19 | 00386100 | 0.0047μF 150V C.C. |
| 20 | 07217500 | AC Outlet |
| 21 | 39104900 | Strain Relief |
| 22 | 11316500 | Push Switch, power |
| 23 | 07269400 | 0.033μF 300V M.C. |
| 24 | 07646200 | Tuning Unit |
| mZ1, 2 | 07254300 | 10000μF 100V E.C. |

## 6-2. Top View <9900Z>

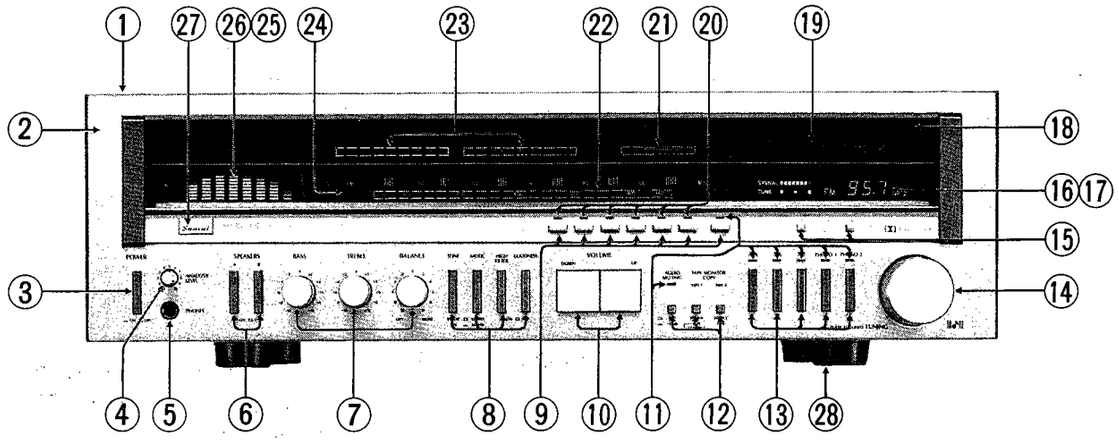



Volume Control Mechanism
(See 8. Exploded View on page 27)

## 6-3. Bottom View <9900Z>



## Front View <8900ZDB>




List <Front View>

| s No. | Stock No. | Description |
|---|---|---|
| 1 | 07656310 | Wood Bonnet |
| 2 | 07653220 | Front Panel Ass'y |
| | 07648800 | Panel Side Frame |
| | 07648900 | Front Glass |
| 3 | 07580300 | Push Knob, power |
| | 07628000 | Push Knob Guide |
| | 11316500 | Push Switch, power |
| 4 | 07646100 | Knob, analyzer level |
| 5 | 07204100 | Head Phone Jack |
| 6 | 07580300 | Push Knob, speakers |
| | 07581300 | Push Knob Guide |
| 7 | 07615600 | Knob, bass, treble, balance |
| 8 | 07580300 | Push Knob, tone, mode, hi-filter, loudness |
| | 07581300 | Push Knob Guide |
| 9 | 07649810 | Preset Knob Ass'y |
| 0 | 07652300 | Push Knob Ass'y, volume |
| 1 | 07578000 | Indicator (Red) |
| 2 | 07580100 | Push Knob, audio muting, tape mon. 1, 2 |
| | 07580900 | Push Knob Guide |
| 3 | 07580300 | Push Knob, input selectors |
| | 07652400 | Push Knob Guide |
| 4 | 07646000 | Knob, tuning |
| 5 | 07580100 | Push Knob, dolby, FM mode/ FM muting |
| 6 | 00000100 | Fluorescent Display Unit |
| 7 | 54464600 | Smoked Plate (A) |
| 8 | 07652800 | Dial Back Plate |
| 9 | 07616100 | Indicator (Red) |
| 0 | 07578200 | Indicator (Amber) |
| 1 | 07600300 | Indicator Film |
| 2 | 07646300 | Indicator (9-point) |
| 3 | 07615800 | Indicator (14-point) |
| | 07654500 | Indicator (4-point) |
| 4 | 07652500 | Dial Scale |
| 5 | 07237800 | Fluorescent Display Unit, spectrum analyzer |
| 6 | 07616300 | Smoked Plate |
| 7 | 07607300 | Sansui Badge (B) |
| 8 | 55168210 | Leg |

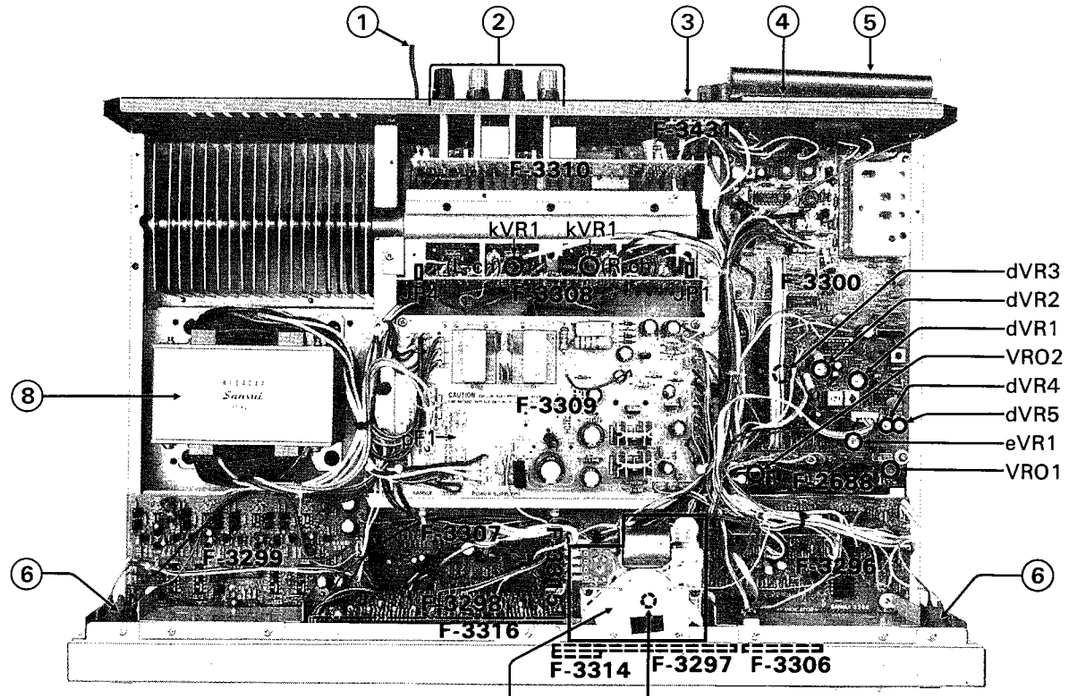
Parts List <Top View>

| Parts No. | Stock No. | Description |
|---|---|---|
| 1 | 38004700 | Power Supply Cord |
| 2 | 07202900 | Speaker Terminal |
| 3 | 11102800 | Slide Switch, AM channel selector |
| 4 | 07563310 | Battery Case Ass'y |
| 5 | 07204800 | AM Bar Antenna |
| 6 | 04007600 | Pilot Lamp 8V 300mA |
| 7 | 04006600 | Pilot Lamp 8V 150mA |
| 8 | 15002101 | Power Transformer |
| pF1 | 04325900 | Fuse 10A 125V (120V) |
| | 04322900 | Fuse 5A 125V (220V ~ 240V) |

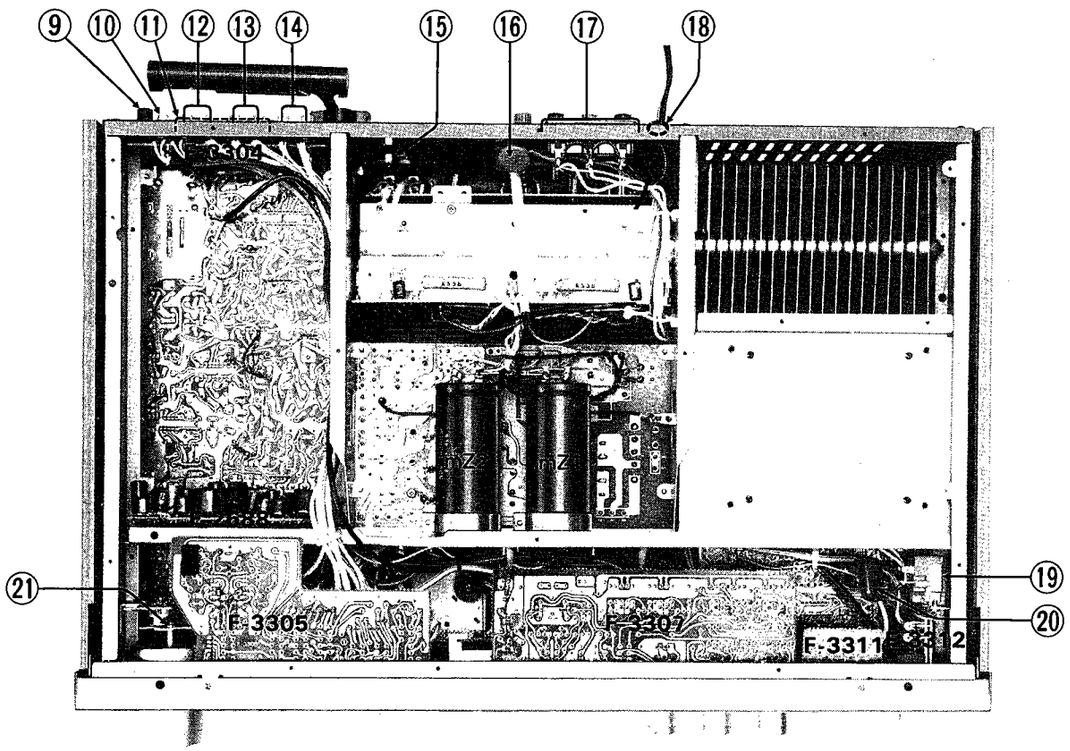
Parts List <Bottom View>

| Parts No. | Stock No. | Description |
|---|---|---|
| 9 | 22301900 | Ground Terminal |
| 10 | 22006000 | 2P Input Terminal Board, phono 1 |
| 11 | 22103110 | Antenna Terminal Board |
| 12 | 22006200 | 4P Input Terminal Board, phono 2, aux |
| 13 | 22006500 | 4P Input Terminal Board, tape 1 |
| 14 | 22006500 | 4P Input Terminal Board, tape 2 |
| 15 | 07257600 | 1P Input Terminal, AM stereo adaptor |
| 16 | 00386100 | 0.047μF 150V M.C. |
| 17 | 07217500 | AC Outlet |
| 18 | 39104900 | Strain Relief |
| 19 | 11316500 | Push Switch, power |
| 20 | 07269400 | 0.033μF 300V M.C. |
| 21 | 07646200 | Tuning Unit |
| mZ1, 2 | 07254200 | 10000μF 80V E.C. |

## 6-5. Top View <8900ZDB>

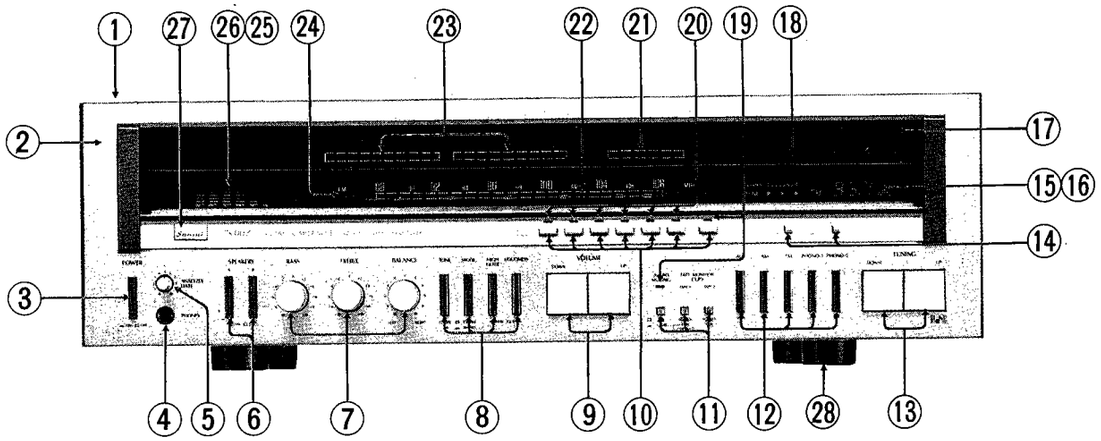



## 6-6. Bottom View <8900ZDB>



9900Z/8900ZDB/7900Z

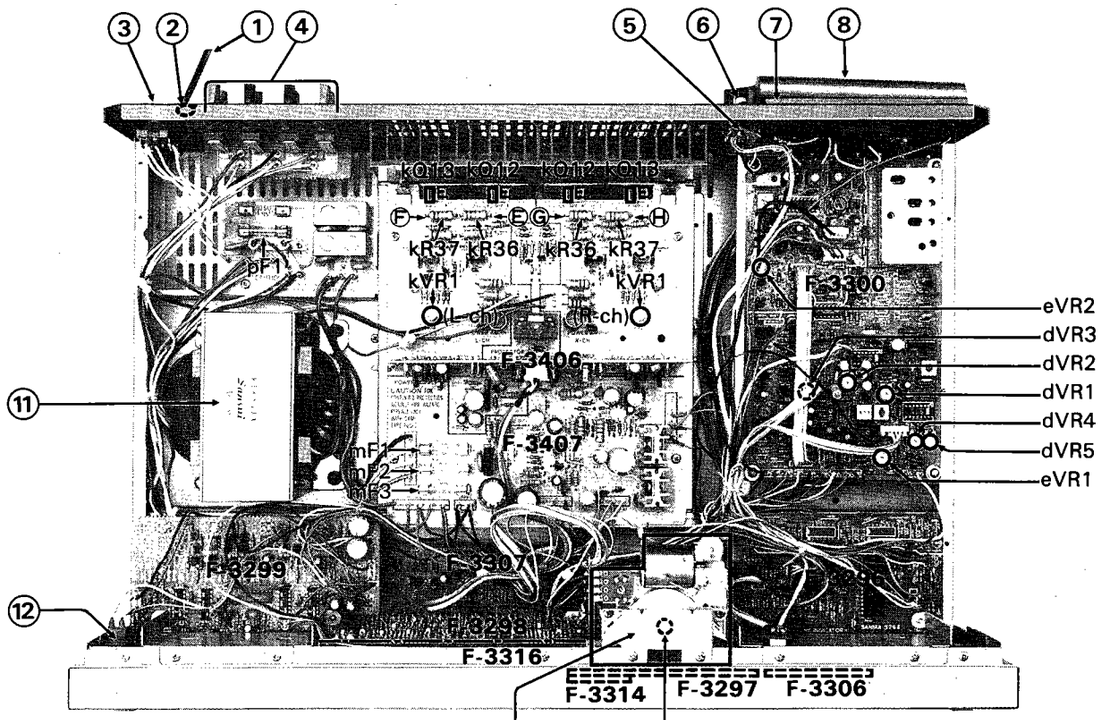
## 7. Front View <7900Z>




Parts List <Front View>

| Parts No. | Stock No. | Description |
|---|---|---|
| 1 | 07720310 | Wood Bonnet |
| 2 | 07653320 | Front Panel Ass'y |
| | 07648800 | Panel Side Frame |
| | 07648900 | Front Glass |
| 3 | 07580300 | Push Knob, power |
| | 07628000 | Push Knob Guide |
| 4 | 07204100 | Head Phone Jack |
| 5 | 07646100 | Knob, analyzer level |
| 6 | 07580300 | Push Knob, speaker |
| | 07581300 | Push Knob Guide |
| 7 | 07615600 | Knob, bass, treble, balance |
| 8 | 07580300 | Push Knob, tone, mode, hi-filter, loudness |
| | 07581300 | Push Knob Guide |
| 9 | 07652300 | Push Knob Ass'y, volume |
| 10 | 07649810 | Preset Knob Ass'y |
| 11 | 07580100 | Push Knob, audio muting, tape mon. 1, 2 |
| | 07580900 | Push Knob Guide |
| 12 | 07580300 | Push Knob, input selectors |
| | 07652400 | Push Knob Guide |
| 13 | 07652300 | Push Knob Ass'y, tuning |
| 14 | 07580100 | Push Knob, tuning selector, FM mode/FM muting |
| | 07580900 | Push Knob Guide |
| 15 | 00000100 | Fluorescent Display Unit |
| 16 | 54464600 | Smoked Plate (A) |
| 17 | 07652900 | Dial Back Plate |
| 18 | 07616100 | Indicator (Red) |
| 19 | 07578000 | Indicator (Red) |
| 20 | 07578200 | Indicator (Amber) |
| 21 | 07600300 | Indicator Film |
| 22 | 07646300 | Indicator (9-point) |
| 23 | 07615800 | Indicator (14-point) |
| | 07654500 | Indicator (4-point) |
| 24 | 07652600 | Dial Scale |
| 25 | 07237800 | Fluorescent Display Unit, spectrum analyzer |
| 26 | 07705800 | Smoked Plate |
| 27 | 07607300 | Sansui Badge (B) |
| 28 | 55168210 | Leg |

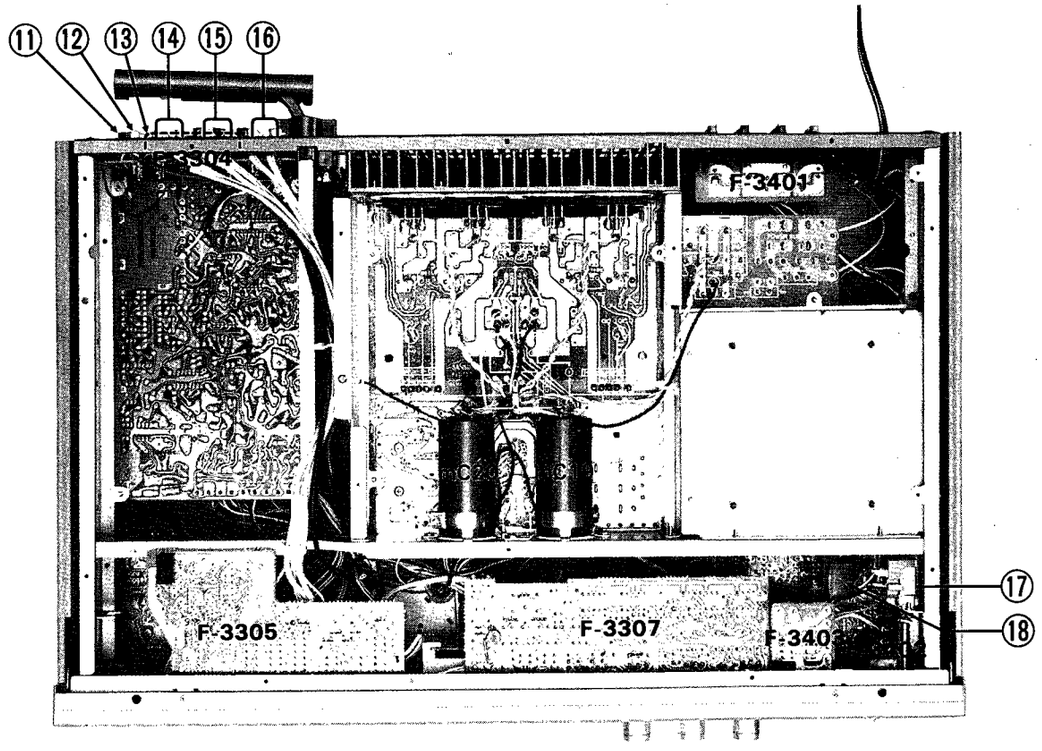
## 6-8. Top View <7900Z>




Parts List <Top View>

| Parts No. | Stock No. | Description |
|---|---|---|
| 1 | 38004700 | Power Supply |
| 2 | 39106000 | Strain Relief |
| 3 | 07189600 | AC Outlet |
| 4 | 07183300 | Speaker Terminal |
| 5 | 07257600 | 1P Input Terminal, AM stereo adaptor |
| 6 | 11102800 | Slide Switch, AM channel selector |
| 7 | 07563310 | Battery Case Ass'y |
| 8 | 07204800 | AM Bar Antenna |
| 9 | 04006600 | Pilot Lamp 8V 150mA |
| 10 | 04007600 | Pilot Lamp 8V 300mA |
| 11 | 15002201 | Power Transformer |
| mF1 ~ mF3 | 07188400 | Fuse 1A 250V |
| pF1 | 07189300 | Fuse 7A 250V (120V) |
| | 07188900 | Fuse 3.5A 250V (220V ~ 240V) |

## 6-9. Bottom View <7900Z>



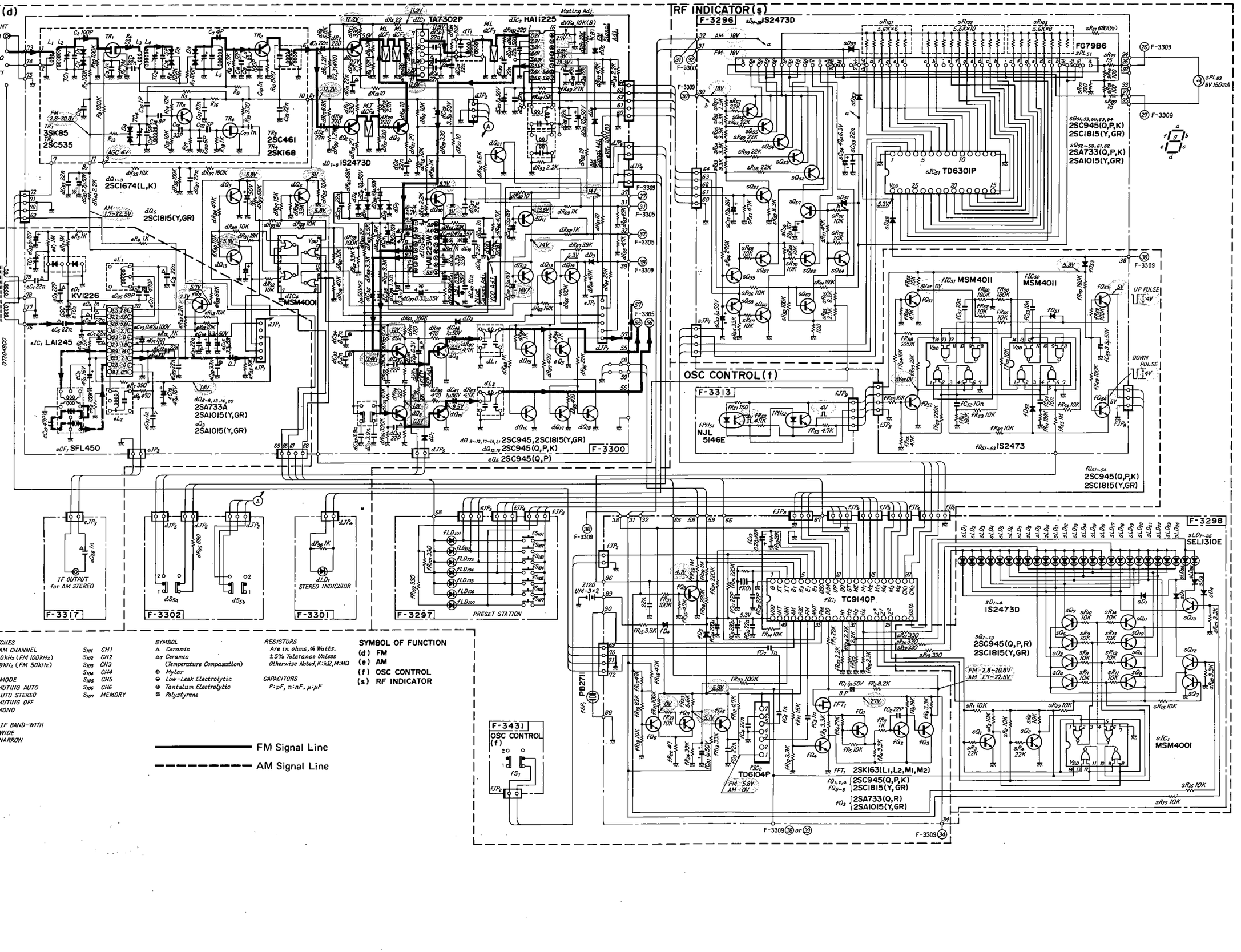

Parts List <Bottom View>

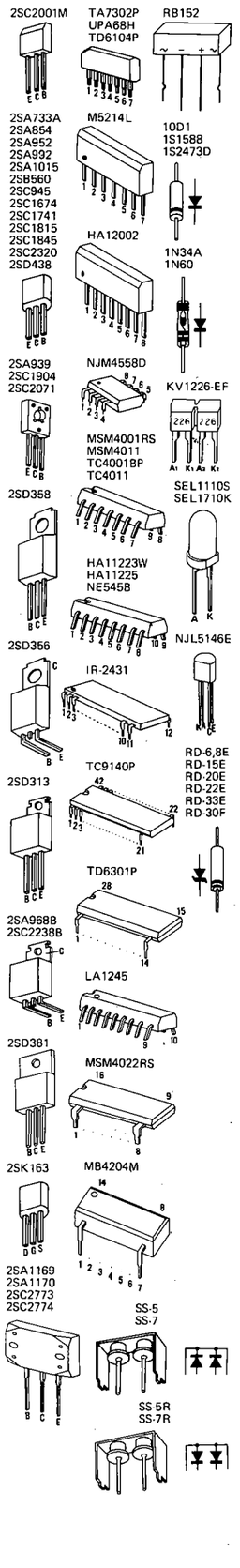
| Parts No. | Stock No. | Description |
|---|---|---|
| 11 | 22301500 | Ground Terminal |
| 12 | 22006000 | 2P Input Terminal Board, phono 1 |
| 13 | 22103110 | Antenna Terminal Board |
| 14 | 22006200 | 4P Input Terminal, phono 2, aux |
| 15 | 11006500 | 4P Input Terminal Board, tape 1 |
| 16 | 22006500 | 4P Input Terminal Board, tape 2 |
| 17 | 11316500 | Push Switch, power |
| 18 | 07269400 | 0.033μF 300V M.C. |
| mC19, 20 | 07255200 | 8200μF 71V E.C. |

* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
* Design and specifications subject to change without notice for improvement.

A | B | C | D | E | F | G | H

# SCHEMATIC DIAGRAM 7-1. 9900Z Tuner Section




SYMBOL OF FUNCTION
(d) FM
(e) AM
(f) OSC CONTROL
(s) RF INDICATOR

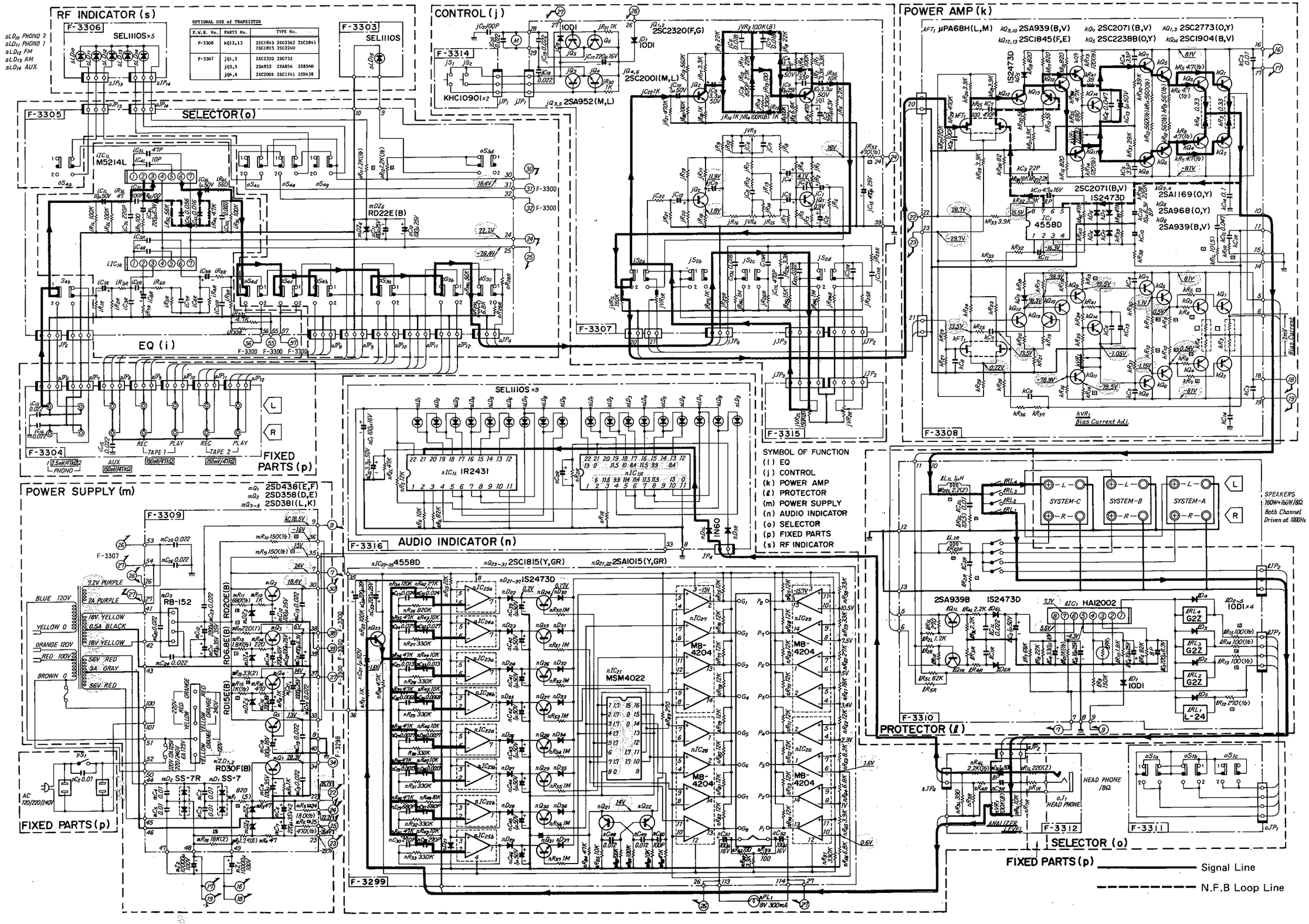
FM Signal Line
AM Signal Line

1 | 2 | 3 | 4 | 5

* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
* Design and specifications subject to change without notice for improvement.



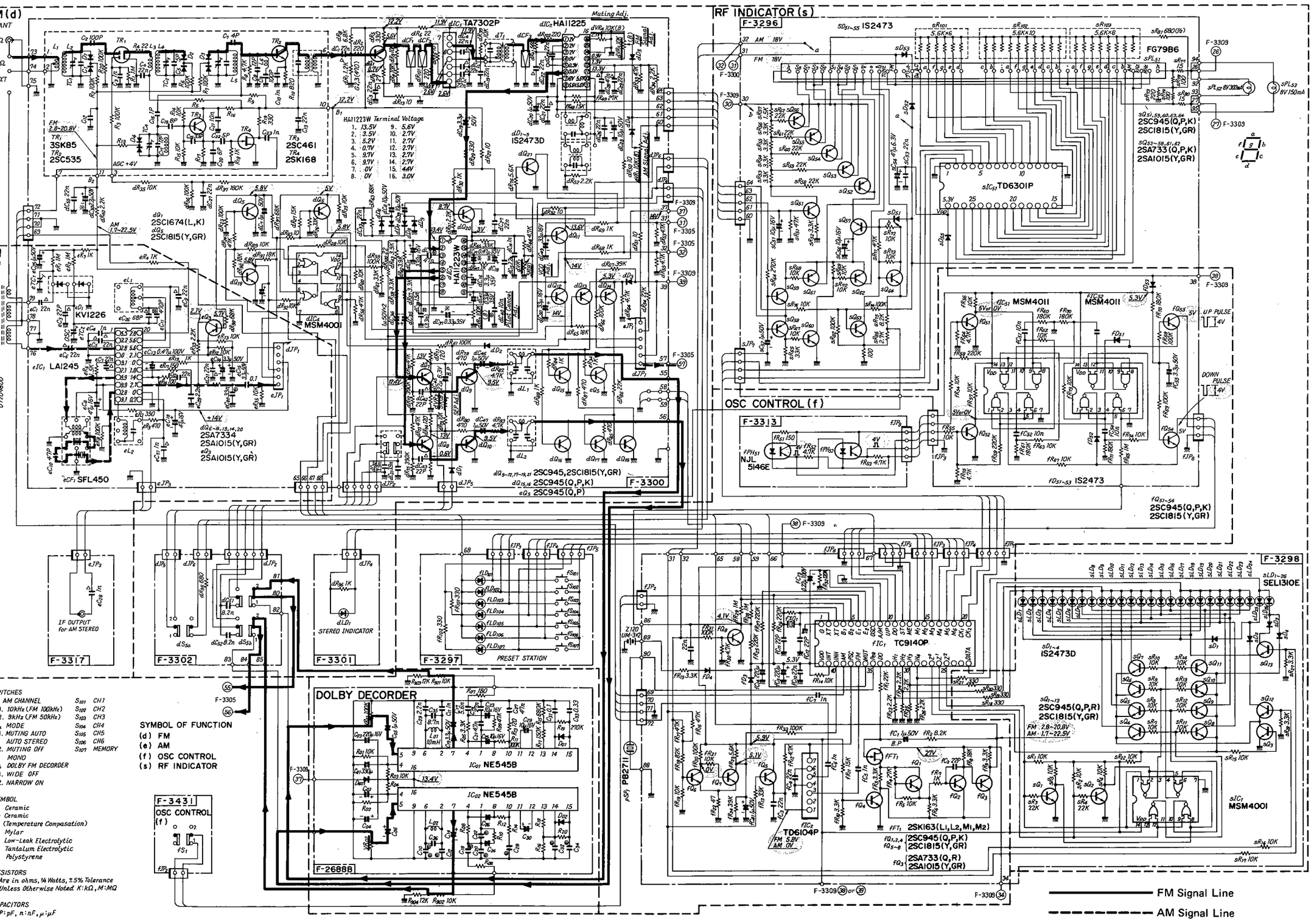
## 2. 9900Z Audio Section

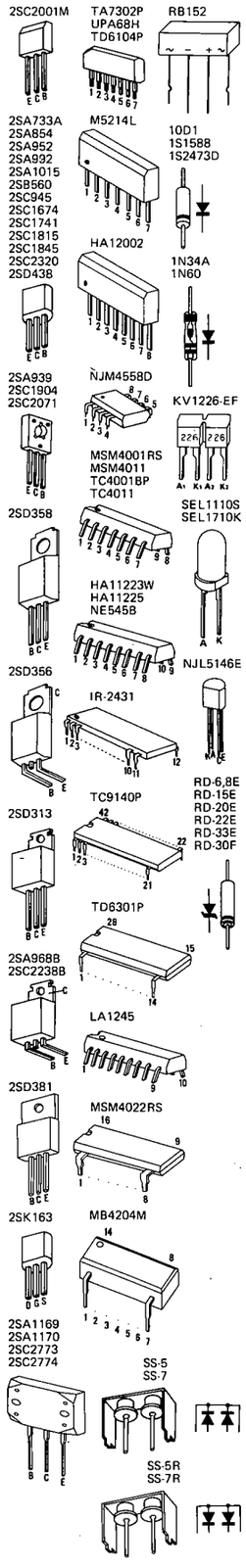


* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'amélioratíons éventuelles.
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
* Design and specifications subject to change without notice for improvement.

A | B | C | D | E | F | G | H

## . 8900ZDB Tuner Section



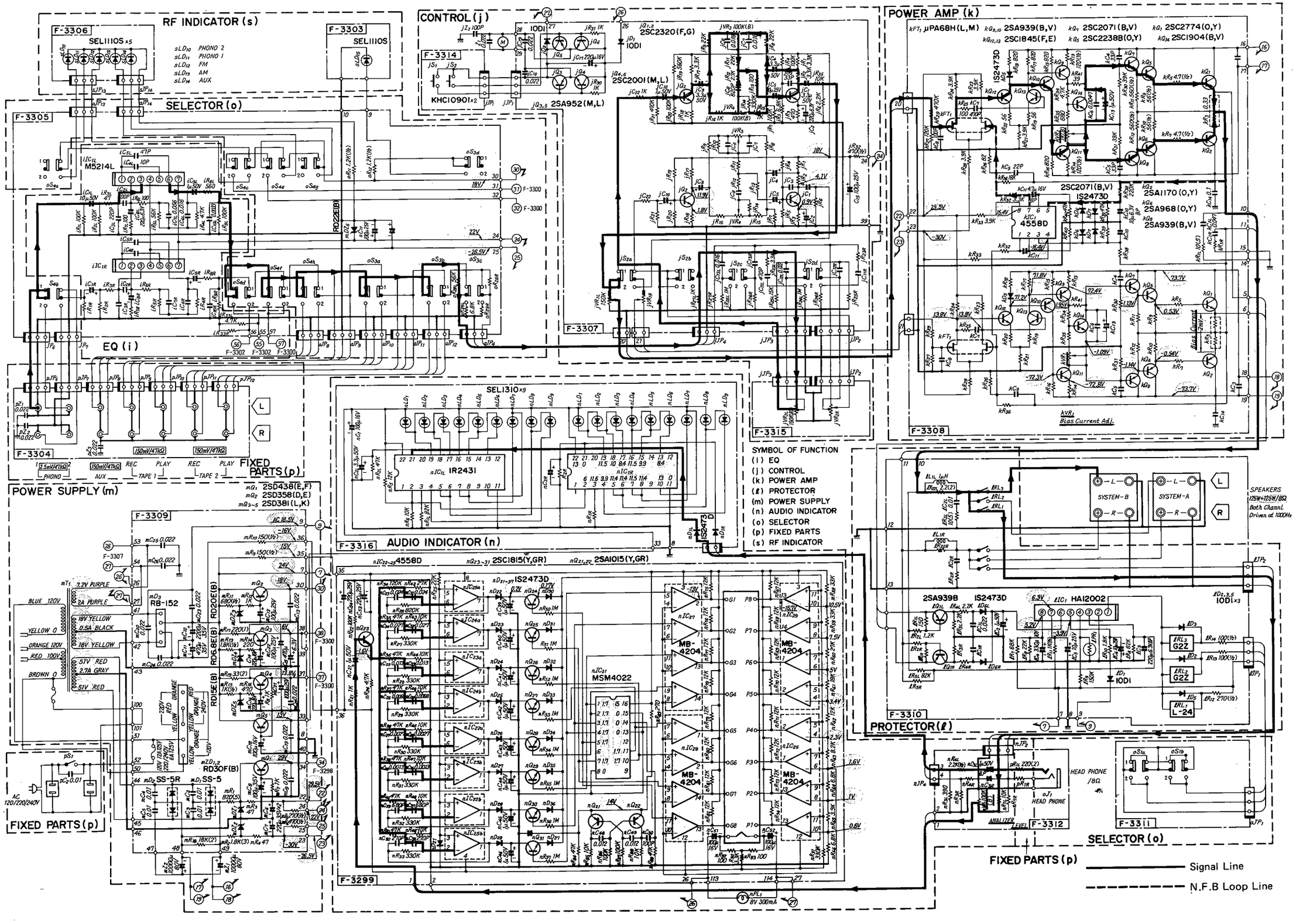



* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
* Design and specifications subject to change without notice for improvement.

A B C D E F G H

1 2 3 4 5

## 7-4. 8900ZDB Audio Section




SWITCHES & CONTROLS

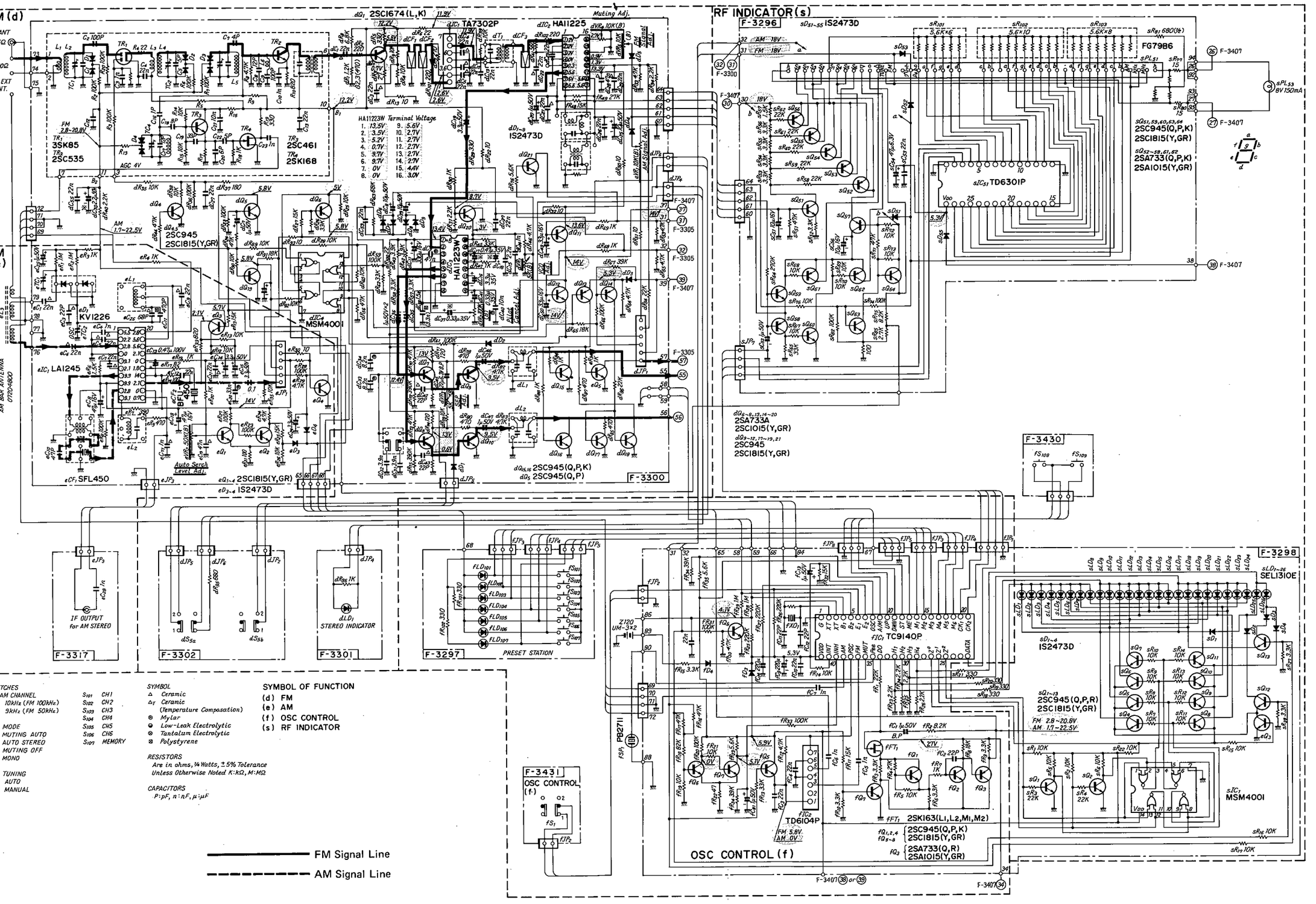
| | | |
|---|---|---|
| POWER | $pS_1$ | |
| F-3305 | | |
| PHONO | $oS_{4a,b}$ | 1. PHONO 1<br>2. PHONO 2 |
| FM | $oS_{4c,d}$ | 1. OFF<br>2. ON |
| AM | $oS_{4e,f}$ | 1. OFF<br>2. ON |
| AUX | $oS_{4g,h}$ | 1. OFF<br>2. ON |
| TAPE 1 | $oS_{3a}$ | 1. REC<br>2. PLAY |
| TAPE 2 | $oS_{3b}$ | 1. REC<br>2. PLAY |
| AUDIO MUTING | $oS_{3c,d}$ | 1. OFF<br>2. ON |
| F-3307 | | |
| TONE DEFEET | $jS_{2a}$ | 1. OFF<br>2. ON |
| MODE | $jS_{2b}$ | 1. STEREO<br>2. MONO |
| HI-FILTER | $jS_{2c}$ | 1. OFF<br>2. ON |
| LOUDNESS | $jS_{2d}$ | 1. OFF<br>2. ON |
| F-3314 | | |
| VOLUME UP/DOWN | $jS_1$ DOWN<br>$jS_2$ UP | |
| F-3311 | | |
| SPEAKER A | $oS_{1a}$ | 1. OFF<br>2. ON |
| SPEAKER B | $oS_{1b}$ | 1. OFF<br>2. ON |
| VOLUME | $jVR_2$ | (F-3315) |
| BALANCE | $jVR_1$ | (F-3307) |
| TREBLE | $jVR_3$ | (F-3307) |
| BASS | $jVR_4$ | (F-3307) |
| ANALIZER LEVEL | $nVR_1$ | (F-3312) |

* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
* Anderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
* Design and specifications subject to change without notice for improvement.

A | B | C | D | E | F | G | H

1 | 2 | 3 | 4 | 5

## 5. 7900Z Tuner Section




SWITCHES
AM CHANNEL
10KHz (FM 100KHz)
9KHz (FM 50KHz)
MODE
MUTING AUTO
AUTO STEREO
MUTING OFF
MONO
TUNING
AUTO
MANUAL

| | |
|---|---|
| S101 | CH1 |
| S102 | CH2 |
| S103 | CH3 |
| S104 | CH4 |
| S105 | CH5 |
| S106 | CH6 |
| S107 | MEMORY |

SYMBOL
△ Ceramic
△T Ceramic (Temperature Composation)
Ⓜ Mylar
Ⓛ Low-Leak Electrolytic
Ⓣ Tantalum Electrolytic
⊠ Polystyrene

RESISTORS
Are in ohms, 1/4 Watts, ±5% Tolerance
Unless Otherwise Noted K:KΩ, M:MΩ

CAPACITORS
P:pF, n:nF, μ:μF

SYMBOL OF FUNCTION
(d) FM
(e) AM
(f) OSC CONTROL
(s) RF INDICATOR

* La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
* Design and specifications subject to change without notice for improvement.

# 7900Z Audio Section

OPTIONAL USE of TRANSISTOR

| P.W.B. No. | PARTS No. | TYPE No. |
|---|---|---|
| F-3407 | jQ1 | 2SA992 2SA10 6 2SA1015 2SA970 |
| F-3406 | kQ1,2,3,4 | 2SC1845 2SC23(2 2SC1841 2SC1815 2SC2240 |
| | kQ5,6 | 2SA992 2SA10 6 2SA1015 2SA970 |
| F-3307 | jQ1,2 | 2SC2320 2SC73( |
| | jQ3,5 | 2SA952 2SA854 2SB560 |
| | jQ4,6 | 2SC2001 2SC17( 2SD438 |

RF INDICATOR (s)

CONTROL (j)

POWER AMP (k)

F-3305 EQ (i)

SELECTOR (o)

PROTECTOR (ℓ)

FIXED PARTS (p)

POWER SUPPLY (m)

AUDIO INDICATOR (n)

SYMBOL OF FUNCTION

(i) EQ
(j) CONTROL
(k) POWER AMP
(ℓ) PROTECTOR
(m) POWER SUPPLY
(n) AUDIO INDICATOR
(o) SELECTOR
(p) FIXED PARTS
(s) RF INDICATOR

SYMBOL

⊠ Non-Inflammable Resistor
□ Cement Resistor

RESISTORS
Are in ohms, ¼ Watts, ± 5% Tolerance
Unless Otherwise Noted. K:kΩ, M:MΩ

CAPACITORS
Are in μF, Unless Otherwise Noted. P:pF

Signal Line

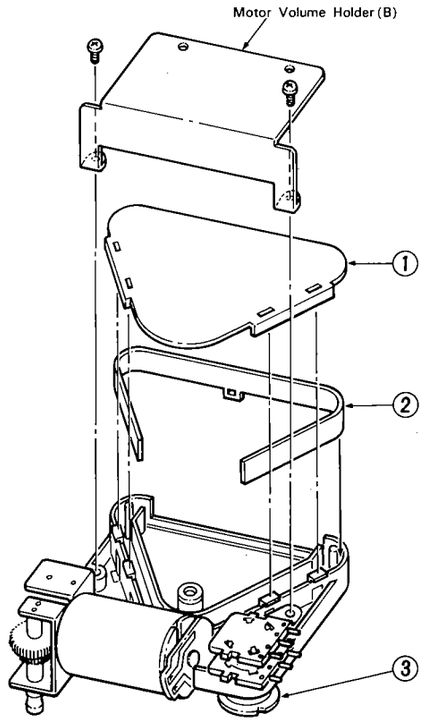
N.F.B Loop Line

SWITCHES & CONTROLS

| | | |
|---|---|---|
| POWER | $pS_1$ | |
| F-3305 | | |
| PHONO | $oS_{4a,b}$ | 1. PHONO 1<br>2. PHONO 2 |
| FM | $oS_{4c,d}$ | 1. OFF<br>2. ON |
| AM | $oS_{4e,f}$ | 1. OFF<br>2. ON |
| AUX | $oS_{4g,h}$ | 1. OFF<br>2. ON |
| TAPE 1 | $oS_{3a}$ | 1. REC<br>2. PLAY |
| TAPE 2 | $oS_{3b}$ | 1. REC<br>2. PLAY |
| AUDIO MUTING | $oS_{3c,d}$ | 1. OFF<br>2. ON |
| F-3307 | | |
| TONE DEFEET | $jS_{2a}$ | 1. OFF<br>2. ON |
| MODE | $jS_{2b}$ | 1. STEREO<br>2. MONO |
| HI-FILTER | $jS_{2c}$ | 1. OFF<br>2. ON |
| LOUDNESS | $jS_{2d}$ | 1. OFF<br>2. ON |
| F-3314 | | |
| VOLUME UP/DOWN | $jS_1$ | DOWN |
| | $jS_2$ | UP |
| F-3403 | | |
| SPEAKER A | $oS_{100a,b}$ | 1. OFF<br>2. ON |
| SPEAKER B | $oS_{101a,b}$ | 1. OFF<br>2. ON |
| VOLUME | $jVR_2$ | (F-3315) |
| BALANCE | $jVR_1$ | (F-3307) |
| TREBLE | $jVR_3$ | (F-3307) |
| BASS | $jVR_4$ | (F-3307) |
| ANALIZER LEVEL | $nVR_{100}$ | (F-3402) |

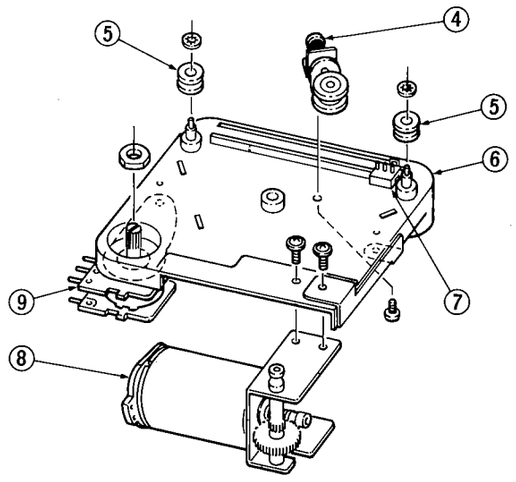
9900Z/8900ZDB/7900Z

# 8. EXPLODED VIEW OF VOLUME CONTROL MECHANISM




Parts List

| Parts No. | Stock No. | Description |
|---|---|---|
| 1 | 07600400 | Housing Cover |
| 2 | 07600300 | Indicator Film |
| 3 | 07600500 | Pulley D-17 |
| 4 | 07600910 | Tension Ass'y |
| 5 | 07233400 | Pulley (Small) |
| 6 | 07600210 | Housing |
| 7 | 07600600 | Film Guide |
| 8 | 07234000 | Motor Unit (B) |
| 9 | 07242100 | Variable Resistor 150kΩ (B) x 2 |




# 9. THREADING OF VOLUME CONTROL

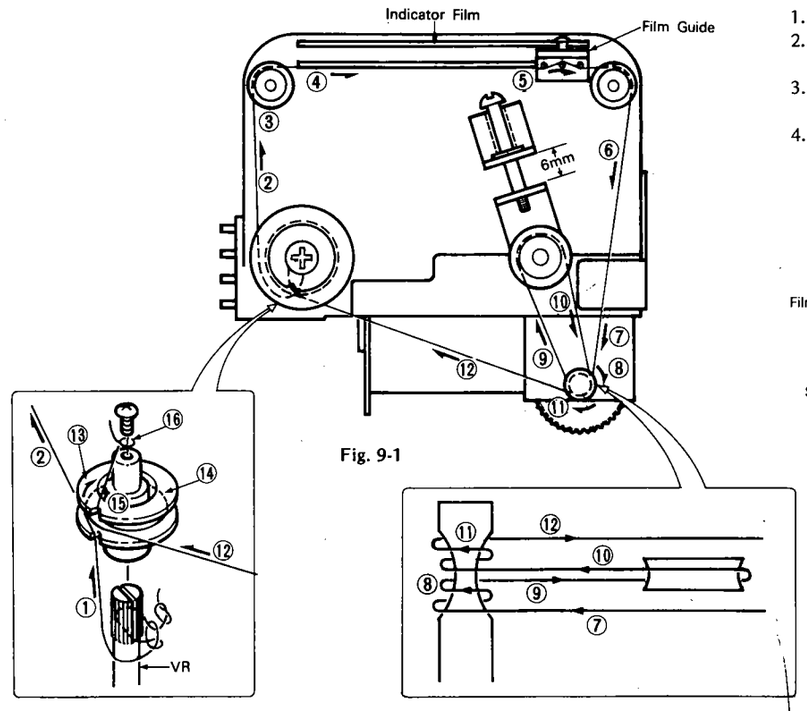



Fig. 9-1

1. Turn the volume control fully clockwise.
2. Thread the string in numerical order from ① to ⑯ as Fig. 9-1.
3. Position the indicator film & the film guide at end of right side.
4. Lock the string to the film guide with locking paint. (See Fig. 9-2).

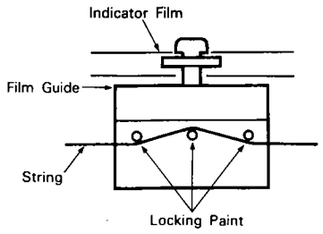



Fig. 9-2

# 10. PACKING LIST

<9900Z>

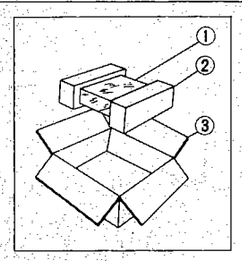
| Parts No. | Stock No. | Description |
|---|---|---|
| 1 | 91167420 | Vinyl Bag |
| 2 | 07654100 | Styrofoam Packing |
| 3 | 07654200 | Carton Case |

<8900ZDB>

| Parts No. | Stock No. | Description |
|---|---|---|
| 1 | 91167420 | Vinyl Bag |
| 2 | 07654100 | Styrofoam Packing |
| 3 | 07663300 | Carton Case |

<7900Z>

| Parts No. | Stock No. | Description |
|---|---|---|
| 1 | 91167420 | Vinyl Bag |
| 2 | 07654100 | Styrofoam Packing |
| 3 | 07663400 | Carton Case |




# 11. ACCESSORY PARTS LIST

<9900Z>

| | Stock No. | Description |
|---|---|---|
| | 38201200 | FM Antenna |
| | 07577400 | Operating Instruction |

<8900ZDB>

| | Stock No. | Description |
|---|---|---|
| | 38201200 | FM Antenna |
| | 07577500 | Operating Struction |

<7900Z>

| | Stock No. | Description |
|---|---|---|
| | 38201200 | FM Antenna |
| | 07577600 | Operating Instruction |

- **Note:**
  **Notice when the user moves from 10 kHz (100 kHz) to 9 kHz (50 kHz) steps area, or vice versa, in AM (FM) broadcasting frequency.**

When the frequency-step of AM broadcasting is set to 10 kHz or 9 kHz (in EUROPE) by sliding the AM channel (9 kHz/10 kHz) selection switch (fS1) installed on the rear panel, the frequency-step of FM broadcasting is also switched automatically to 100 kHz or 50 kHz (in EUROPE).

Turn power switch OFF, when AM Channel Selection Switch (fS1) is set to 9 or 10 kHz.

| Switch (fS1) | AM | FM |
|---|---|---|
| Set 10 kHz | 10 kHz Frequency Step | 100 kHz Frequency Step |
| Set 9 kHz | 9 kHz Frequency Step | 50 kHz Frequency Step |

Sansui

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(SM1-10) Printed in Japan (5108300M) (Stock No. 36457100)